MATERIALS OF INSTRUCTION

THE EIGHTH YEARBOOK OF THE DEPARTMENT OF SUPERVISORS AND DIRECTORS OF INSTRUCTION OF THE NATIONAL EDUCATION ASSOCIATION

BY A COMMITTEE OF THE DEPARTMENT
FANNIE W. DUNN, CHAIRMAN

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NATIONAL EDUCATION ASSOCIATION

LETTER OF TRANSMITTAL

To Members
Department of Supervisors and Directors of Instruction
National Education Association

Herewith is submitted for your consideration the Eighth Yearbook of the Department. The purpose of this volume is to stimulate thinking about the part which materials of instruction play in any program of education, and to offer practical help to supervisors and teachers in the discovery, selection, and use of some of the more important types of instructional materials.

The Yearbook may be thought of as falling into four parts: an introductory chapter, devoted mainly to point of view, scope of the field, and inclusion of the Yearbook; a series of four chapters dealing with materials afforded by the environment, the book, and the museum, and with materials for fine and practical arts; a series of three chapters on the organization and administration of materials; and an Appendix of annotated bibliographies and directories.

Many persons have contributed to this Yearbook, and their assistance is gratefully acknowledged. Especial thanks are due to Miss Mildred English, past president of the Department, who, though not a member of the original committee, and already carrying heavy responsibilities, has been throughout an unfailing source of counsel and aid.

For the Committee,
FANNIE W. DUNN, *Chairman*

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PREFACE

Recognizing the important part which materials play in any program of education, and the handicaps resulting from inadequate or unbalanced provision, the Department selected *Materials of Instruction* as the theme of its Eighth Yearbook. The subject is an especially pertinent one because of the drastic curtailments in expenditures for materials which has characterized the depression years; but its more fundamental and permanent importance lies in the need for adjustment and adaptation of educational means of every type in the light of both changing conceptions and conditions of education.

In this undertaking the problem of definition has from the beginning been a difficult one. The field to be compassed seemed to lie between equipment, on the one hand, and curriculum on the other, impinging upon each, yet including neither. It was decided that the essential criterion of inclusion of any item should be its mutual use by children and teacher in doing things together. By this touchstone the course of study, as an organized body of suggestions or instructions for the teacher's guidance, is excluded from the treatment; but in other respects the term, materials of instruction, is rendered more inclusive than usage commonly involves.

Within this general criterion, however, differences in interpretation have appeared, as the reader will discover for himself. That such differences as occur might have been, or would have been, harmonized by committee discussions is highly probable, though whether such harmonization would have materially increased the value of the Yearbook is questionable. For the purpose of this Yearbook is primarily practical, and it is a practical fact that no single educational point of view characterizes American education, even the protagonists of what might be regarded as a distinct type, as shown clearly in the recent year-

book on *The Activity Movement*,[1] exhibiting notable variation both in principles and practice.

Whether desirable or not, it has been impossible to provide for meetings of the committee, except for two breakfast conferences at the 1934 and 1935 meetings of the Department in Cleveland and Atlantic City, in neither case with all the members of the committee present. Under the circumstances, it has been necessary to assign the different chapters, each to a specified author, and to leave the final organization and editing to the chairman of the committee and to Dr. Hosic, the editor of all Department publications. For this reason a departure has been made from the practice of recent yearbook committees of this Department in that each chapter is signed by its contributor, and the various bibliographies and other lists in the Appendix are severally credited to their compilers.

It has become evident, during the progress of the work, that the range and inclusion of materials of instruction, as the term has been defined, are too great to be helpfully encompassed in one yearbook and by one committee. As originally envisioned, the scope included materials for all the various aspects of the curriculum, and also for child study and child accounting. In part this would be unwarranted, even if committee time and book size permitted, since some of it has already been done, and well done. Rose Knox's book, *School Activities and Equipment*,[2] still remains a classic treatment which no committee with only margins of time for the work could hope to rival, and which is a treasure house of detailed information and suggestion for elementary schools. A similar service, on the high school level, has been rendered by the *Enriched Teaching Series*, edited by Maxie N. Woodring.[3]

The 1934 yearbook of the Department of Elementary School Principals[4] is a valuable compendium of visual aids. The Seventh

[1] *The Activity Movement.* Thirty-third Yearbook, National Society for the Study of Education, Part II. Bloomington, Ill.: Public School Publishing Company, 1934.

[2] Published by Houghton Mifflin Company, 1927.

[3] See Bibliographies of Sources of Supplementary Teaching Aids, in the Appendix of this volume, under Commercial Subjects, English, Health and Physical Education, Latin, Mathematics, and Science, pp. 190-194.

[4] *Aids to Teaching in the Elementary School.* Thirteenth Yearbook, Department of Elementary School Principals, N.E.A., Washington, D. C., 1934.

Yearbook of our own Department[5] presents an excellent compilation of scientific studies which afford criteria for the selection of commercial materials, including basic vocabulary, format, subject content, and interest appeal, applied to textbooks, workbooks, and map equipment.

Child study and child accounting have been elaborately treated in the latest yearbook of the National Society for the Study of Education.[6] A yearbook devoted altogether to the workbook is under contemplation, and wisely so, for the development of this type of material in recent years has been enormous and its critical evaluation will prove a very extensive undertaking.

So the present Yearbook comes to the members of the Department as a beginning attack rather than a complete encompassment of the broad field of educational materials. It is the hope of the committee that within the areas of that field which it has explored it will be of genuine service, and that its evident gaps and omissions, not already filled by other agencies, may stimulate future efforts to supply them.

Acknowledgments

The committee in charge of the Yearbook has materially changed in personnel, only two of the original committee besides the chairman being represented in the completed report. To these, Miss Helen Heyl and Dr. Maycie Southall, especial appreciation is due for their continued support as well as for their final contribution. Cordial thanks are due to Dr. W. M. Gregory, Mr. Harold Van Westrienen, Miss Ida Seidel, and Dr. Florence Stratemeyer, who accepted belated appointment and made valuable contributions. Closely coöperating with Miss Heyl, Miss Blanche Kennedy of the School Libraries Division of the New York State Department of Education has rendered expert and detailed assistance of great value. Miss Eleanor M. Dye of the Library Staff of Teachers College, Columbia University, and Miss

[5] *Scientific Method in Supervisory Programs.* Seventh Yearbook, Department of Supervisors and Directors of Instruction, N.E.A. New York: Teachers College, Bureau of Publications, 1934.

[6] *Educational Diagnosis.* Thirty-fourth Yearbook, National Society for the Study of Education, Part II. Bloomington, Ill.: Public School Publishing Company, 1935.

Etta Schneider, Research Assistant, compiled and annotated the Bibliographies of Sources of Supplementary Teaching Aids, and Miss Schneider also assembled the directory of State Visual Aid Departments. To both of these, grateful thanks are extended. Acknowledgments are also due Miss Vesta Shimel of Grand Rapids, Michigan, for permission to use materials from her children's bibliography in fine and practical arts, and to Professor Eleanor Witmer, Librarian of Teachers College, for the Directory of Extension Departments of State Libraries. Other bibliographies are in the main the work of Dr. Stratemeyer, Miss Heyl, and Miss Kennedy.

Grateful thanks are also extended to Miss Edith Bader and Miss Faye Coney, Ann Arbor, Michigan; Miss Anne Holdford, Wake County, North Carolina; Mrs. Eula Johnston, Chattanooga, Tennessee; Miss Mabel Daggett, Kingsport, Tennessee; Mr. Max Herzberg, Newark, New Jersey; Dr. Ethel Waring, Cornell University; Miss Margaret Gustin, Unionville, Connecticut; Miss Rose Brandt, Office of Indian Affairs, Washington, D. C.; Miss Anna Condon, Stamford, Connecticut; Miss Julia Weber, Allamuchy, New Jersey; Miss Eva Pinkston, Executive Secretary of the National Department of Elementary School Principals, who have contributed suggestions, materials, or other assistance which has helped to make the Eighth Yearbook possible.

F. W. D.

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CHAPTER I

POINT OF VIEW, SCOPE, AND ORGANIZATION

FANNIE W. DUNN

According to the point of view from which this Yearbook is oriented, the program of the school is conceived as made up of those experiences of children which are shaped, guided, utilized, or afforded by the school, and materials of instruction are defined as those means to such experiencing which children and teacher together employ.

CHANGING CONDITIONS AS FACTORS OF MATERIAL NEEDS

Two important differences affecting the school's contributions to its pupils' experiences are to be noted between the conditions of an earlier day and our own. When civilization was less complex, and before distance on the earth had been all but annihilated by modern means of transportation and communication, the first-hand experiences one progressively met in everyday living to a large degree encompassed all the types of experience which were involved in successful membership in one's society. There was little of social understanding, within the scope of one's responsible participation, that was not attainable through direct observation or learning of the apprentice type. The school's chief contributions to social living were the arts of communication, the so-called Three R's. The remainder community life gave without need for the school's aid.

The second important difference lies in the nature of the school's enrollment. Comparatively few of the youth came to the early school except for so long as mastery of elementary reading, writing, and computation required. Those who did come were largely of that mental quality which readily grasps ab-

stractions and is able with little difficulty to arrive at essential ideas by the use mainly of verbal materials or other abstract symbols.

Thus letters, figures, textbooks, pen and ink and crayon, maps and globes came to be the chief materials of instruction, because for the purpose and the personnel which the school was designed to serve, those materials fairly well sufficed.

Both these conditions are in our day greatly changed. The enormous problems of a democratic society, the members of which are too numerous and constrained by too many conflicting interests or demands to come together for face to face consideration of their mutual social and political purposes and plans, at the same time demand far greater social intelligence than was called for in an earlier day, and prevent the acquisition of needed understanding by means of experiences of community living. The degree of "rugged individualism" which was perhaps even contributory to national progress in pioneer days is incompatible with social welfare today, yet the unwieldy size of communities of our power age prevents the type of social coöperation and mutual helpfulness which also was characteristic of the neighborhoods of earlier times.

If the schools do not socialize our population, there appears no other means of effecting this end. But this function, if it is to be adequately performed, must extend to all the children of all the people, not merely to the intellectually selected group who were its constituents even so lately as half a century ago. Moreover, with the inadequacy of modern community life for that share of the task which in the past it effectively performed, mere symbolic literary or numerical instruction is incapable of serving the necessary purpose even for the intellectually select, and the more so for the total population. Materials of instruction must obviously, therefore, be extended beyond those types which formerly sufficed.

Types of Needed Materials

Miss Knox has classified materials as of three types: (1) those which help children to a first-hand knowledge of real things;

(2) those which help to second-hand knowledge; (3) those which help in expressing ideas, interests, or feelings.

A somewhat more inclusive elaboration of her classification is suggested as follows:

1. *Materials used in arriving at knowledge or understandings.*

a. Materials involved in or contributing to first-hand experience, as social institutions of the community which can be observed or participated in; plant and animal life, rock formations, stars, or other natural phenomena of which some direct experience may be had; museum collections, laboratories, garden plots, or any other provisions by means of which direct information may come.

b. Materials for indirect, second-hand, or vicarious experiencing. These are of varying degrees of remoteness from reality, in what Hollingworth[1] has described as a "hierarchy of symbolism."

1. Seeing the actual events take place or handling concrete objects and materials.
2. Seeing the events "acted out," as in drama or pantomime, by people who "represent" the actual characters of situations.
3. Motion picture portrayal of the events, or of actions intended to represent them.
4. Photographs, still pictures of significant characters and objects.
5. Maps, diagrams, blueprints, and similar graphic representations of objects, facts and relations.
6. Verbal account and description, heard or read, in the mother tongue, using the vocabulary of daily life.
7. Description through the use of technical symbols and terminology, indices, coefficients, foreign speech or similar sets of special and recondite signs.

. . .

If the group to whom material is presented is very heterogeneous, the simpler methods will be the more likely to carry the message to all. The younger, the less sophisticated and less educated the audience, also, the more likely will the simpler methods be to promote equal and general understanding.

Even within the past decade much advance has been made in types of materials available for indirect experiencing. Rugg's emphasis on the importance of incident has had great influence in bringing the concreteness of illustrative narrative to add real-

[1] Hollingworth, H. L., *Educational Psychology*, pp. 209-210. D. Appleton-Century Company, 1933.

ity to generalized statement. Illustration of textbooks has become an art in itself. Pictorial maps have had extensive development, affording a more gradual transition from reality to abstraction. Departments of visual education have developed in many cities and states, and to still pictures, such as prints and lantern slides afford, have been added motion pictures and, in an increasing number of situations, sound pictures. Museums, besides collections of genuine objects, afford three dimensional representations of human, plant, and animal societies; and the radio reinforces historical narrative with dramatic presentation of significant events. Graphics have been extensively developed and various types ranging from pictographs to bar graphs are used in instructional materials, a particularly notable development in this field having been made by Neurath.

Nor should there be overlooked the extensive development of reading material designed for school use, supplementary readers dealing with a great number of concrete topics in the fields of social and elementary science, and even art and music, adapted as never before to immature stages of reading ability; and excellent reference books and encyclopedias prepared especially to meet the needs of the common school.

Not only are such materials as these afforded in increasing amount, variety, and adaptation to individual needs, but also definite references to them are coming to be made in courses of study.

Although in most of the courses of study—even the recent ones—references are no more than excellent bibliographies, here and there appears a much wider variety of suggested aids. Thus Ann Arbor, under "Materials for Pupils," lists such items as "Charts and graphs by S. S. Wyer, consulting engineer, Columbus, Ohio," "Films taken in and about the three junior high schools of Ann Arbor," "Pictures put out by *Iron Age Magazine*," "Exhibits of inventions made by previous classes," "Ann Arbor newspapers," "Mimeographed sheets furnished by the City Engineer's Office," and "Classical Museum, University of Michigan."

Increasing also is the trend toward collection or construction by children of illustrative materials for their classes or schools,

including museum exhibits, clippings, pictorial maps, books, and other forms of objective representation, which promote understanding both for the group which makes them and for later classes which use the information thus made available.

2. *Materials for appropriation and utilization of the cultural heritage of the past* other than that in the field of knowledge or science, including literature, art, architecture, and music.

Like the preceding category, this involves both direct and indirect experience. The great literary heritage may be directly received by all who have the power to read intelligently and appreciatively, provided only that library facilities are available.

Masterpieces of painting and sculpture are accessible to only a very small proportion of persons, old or young, but excellent reproduction in black and white or color afford means for a high degree of appropriation of this part of the cultural heritage, if only these means are made available through wall pictures or prints for school use, local art galleries, access to private collections, or traveling exhibits, all of which are found represented among school facilities.

Music, once the privilege of only the very few to hear except in unexpert amateur rendition, has now become widely accessible by means of the phonograph and the radio. Inexpensive phonographs have for two decades been part of the equipment of many schools or classrooms. The radio is found today in 17,000,000 American homes, and is increasingly being included in school equipment. A study is now being made by the Office of Education to discover the present status of school provision. New York City has recently announced a project for wiring all classrooms for the use of radio and motion pictures.

Architecture and textiles may be mentioned as other aspects of the racial art heritage which are finding a place here and there in schools.

Needless to say, appropriation of the vast accumulations of culture which the race has transmitted waits upon the general availability of appropriate materials of instruction.

3. *Materials for the expression of ideas, interests, feelings, or purposes,* as in painting, sculpture, music, photography, landscape

art, house decoration or design, architecture, metal work, textiles, and other crafts, dramatization, prose or poetic composition, dance, or sport.

Parallel with recent emphasis on social studies has gone increased stress on creative expression through fine and practical arts, physical activity, and literature. As the power age steadily reduces the hours of labor for the necessities of life, it becomes ever more evident that both consumption and production in the field of art should desirably increase, both for economic well-being and for human satisfactions. Problems of wise use of leisure grow daily more pressing. Hobbies are being encouraged more and more in schools. Widely extended experiences in the field of expression wait in the main, however, on the provision of essential materials.

In some respects this category overlaps others preceding it. Only by using tools or instruments of painting, gardening, music making, or industrial and practical arts can first-hand experiences in these fields be obtained to form a basis for social understandings and the appreciation basal to wise choice in the great accumulation of culture, meretricious as well as meritorious. In this sense these materials serve for incoming as well as outgoing experience, for impression as well as for expression. Moreover, in the field of music, school orchestras, bands, glee clubs, and rhythm bands afford opportunity for hearing the music of the masters and for expression through the medium of their work, as well as for individual creative activity. Materials of instruction in these fields may thus serve more than one major function.

4. *Materials employed in developing skills of communication.* In this category, not mentioned in Miss Knox's list, are to be included practice materials in number, reading, writing, and English usage, many work books, readers of the work-study type, and some games.

Evaluation of this class of materials involves certain quite diverse factors and points of view. On the one hand, the question may be raised whether provision of this type is not disproportionately great, relative educational values being used as criteria. Statistics are not available to prove the point, but supervisors and

directors of instruction may well give critical consideration to their own practice in this respect, and ask themselves whether it is justified by the purposes of the school of today, or merely a relic of an earlier psychology and philosophy of education.

On the other hand, excessively large classes and demands on teacher time may require some form of activity which can be pursued by pupils with a minimum of attention and direction from the teacher, yet with at least some profit in the form of definite and desired learning in return for the many hours children spend in the schoolroom. It should be clear that such justification as this is at best an apology, nevertheless it is entitled to consideration. In familiar terms, the point at issue here involves the old problem of seat work, which today in spite of new terminology, such as "purposeful activities," "self-directed activity," "partly unsupervised activity," remains much the same in essence.

Types of Materials Treated in This Yearbook

Of the types of materials which have here been described, this Yearbook deals with approximately half, being limited in the main to *materials used in arriving at knowledge or understandings,* and with *materials for the expression of ideas, interests, feelings, or purposes,* with only such consideration of materials for appreciative appropriation and utilization, and of materials employed in developing skills of communication, as is implicit in or incidental to the two categories selected for detailed treatment.

First-hand experience is conceived as basal to all learning, and the local environment is recognized as a rich and too often untapped source of invaluable material for understanding and controlling the world of men and of nature. Here is the opportunity *par excellence* for "seeing the actual events take place or handling concrete objects and materials."[2] For convenience, many local objects or materials may be brought into the schoolroom for more extensive observation or manipulation, the school museum thus becoming a supplemental means of first-hand experiencing. In cities of considerable size, or in the state capital, the museum, frequently developed on a large and ample scale, affords a type of

[2] Hollingworth, *op. cit.,* p. 209.

first-hand acquaintance with objects ordinarily remote and rare which no other institution can duplicate. It is highly desirable that similar institutions be built up in counties or in smaller cities, or, where this is impossible, that extension service from centrally located state agencies be made available.

Of superior concreteness also, as Hollingworth indicates, is the motion picture representation, and photographs, slides, and stereographs follow close as means of clear perception. Here, too, school collections are supplemented by larger centers of distribution, mainly on a state-wide basis, though county units are to be found.

Most extensive and far reaching of all materials for knowledge and understanding is, of course, the word—printed, written, or oral—and particularly the book. In the overweening range of the latter there must not be overlooked, however, what can be told by lay persons in the community, or information of local application which can be prepared and published in booklet, newspaper, or pamphlet form as a permanent addition to school materials.

To these aspects of materials of information Chapters II, III, and IV are devoted. Chapter II discusses first-hand experiences of the local environment, the spoken, written, or printed information dealing with the local situation, locally prepared and published; Chapter IV is concerned with the museum, with pictorial materials of various types, and with the excursion as a school activity; Chapter III discusses the many aspects of the use of books and of the library, in the school or in the larger center, as a source of reading materials on a large scale. In the Appendix are to be found bibliographies of objective materials and visual aids which may frequently be had at little or no expense; a bibliography of children's bibliographies designed to serve special abilities or special interests; a teacher's bibliography of studies of children's reading interests and abilities; directories of State Library Extension Service and of State Centers of Visual Aids.

The third type of materials, i.e., for expression or creative activity, together with certain aspects of the second type, materials for appreciative appropriation, is dealt with in Chapter V, "Materials

for Fine and Practical Arts," and in the extensive bibliography with the same title, which is to be found in the Appendix.

Selection, Organization, and Distribution

It is evident that a wide variety of materials is needed to serve all the functions which have been indicated in the preceding pages. Few bases of selection have as yet been formulated. Following will be found criteria or standards suggested in certain school systems: (a) for material in general; (b) for "purposeful materials" for use in seatwork periods; (c) for the selection and use of visual materials.

From the San Antonio Course of Study in the Social Studies for the First Five Grades, 1929:

1. The material should be suited to the physical development of the children, and should provide for normal physical growth. The material should be easy to handle and should be not so heavy or unwieldy as to strain muscles.
2. The material should be suited to the intellectual and social development of the children, and should foster this growth. Such tendencies as the desire to imitate, to construct, to collect, to create, should be provided for.
3. The material should be, as nearly as possible, of a type easily kept clean and sanitary.
4. The material, as toys, should be simple and should stimulate activities rather than mere observation.
5. The material should satisfy and develop children's æsthetic nature.

The list of materials suggested in this course of study on the basis of these criteria includes extensive provision of raw materials and a few simple tools for construction of various types, as woodwork, painting, sand table representation, sewing, clay modeling, and weaving; room libraries; maps and globes; various musical instruments, phonograph, and radio; toys and games for dramatic play, for physical and intellectual recreation, and in some cases for arithmetic as a by-product; printing sets; visual aids, specifically including moving-picture projector, stereopticon, stereoscopes, films, slides, printed pictures, stereographs, and magnifying glass; materials for nature study, as collecting jars and nets, aquarium, pets and appropriate cages or pens; and playground centers, with equipment for play and for gardening.

From the Hawaiian Activity Program for the Primary Grades, September 1, 1930:

CRITERIA FOR PURPOSEFUL MATERIALS[3]

1. Must be well made, durable, printing as perfect as possible.
2. Each piece must be made so that it can be numbered and filed. Envelopes 6½" by 9" satisfactory for filing card games. Wooden boxes 7" by 22" make good filing boxes, which can be furnished with partitions and stained. Every counter used in a game should be marked with the number of the game.
3. Must be interesting and purposeful, its content growing out of needs discovered by the teacher and recognized by the child. New material must be constantly added.
4. Must be self-checking both as to child and as to content. All chance for the child to learn the wrong thing must be eliminated.
5. "Study Seat Work must grow out of what is taking place in your classroom, the content of all material prepared must be based on the needs of your children, discovered in other activities. Preparing these materials wholesale and using them without discrimination will be worse than useless."
6. It is important that both teacher and child have some check on just what the child does during relatively unsupervised activities.

From Social Studies in the Public Schools of Ann Arbor, Grades Three to Six:

CRITERIA FOR SELECTION AND USE OF VISUAL MATERIALS

Is the material carefully selected? Are the details accurate, typical, pertinent?

Is it easily accessible? If used in a group discussion, is it large enough and displayed in such a way as to be seen by all at once? If used in a study lesson, is it of such a nature and so placed that all may have ample time to study the pictures? Is it attractively displayed?

Is it used for a variety of purposes, such as: To answer specific questions? To stimulate interest and arouse curiosity? To verify statements? To appreciate beauty? To check and fix ideas? To add richness of detail?

Is the teacher thoroughly familiar with it, and can she supplement it by interesting descriptions?

Is the selection and arrangement of visual exhibits such that well-ordered ideas are developed?

Are children stimulated to look for significant details in pictures?

Does the material foster correct description?

Are there frequent opportunities for both oral and visual expression as a result of the study of visual materials?

Are the interests stimulated through visual materials satisfied by supplementary and interpretative materials, such as books and clippings?

[3] Materials for seat work.

Other criteria of special application are to be found in following chapters.

It is obvious that criteria are inevitably an outgrowth of the philosophy back of the school program. This is definitely recognized in Circular 2, of the "Informal Teaching Series" of the New York State Education Department, *Materials and Supplies in Unit Teaching,* 1933. This bulletin contrasts formal, less formal, and informal procedure with reference to the desirable characteristics of materials and supplies, their selection, their storage, and the teacher and pupils' responsibility for their care and use. The variety of procedures under the three types of condition is presented below.

VARIETY OF PROCEDURES IN HANDLING MATERIALS AND SUPPLIES

FORMAL	LESS FORMAL	INFORMAL
1. Who selects the materials and supplies?		
Central authority makes selection and determines distribution	Uniform supply list made by principals, special teachers, and classroom teachers working together	Selected by those using them, teachers and children, in the light of the varied activities to be carried on Provision made by administrative officers for examination, experimentation and evaluation of new materials
2. What are the desirable characteristics of materials and supplies?		
Standardized Uniform for all children in each group Small enough to be used at desks Planned to supplement the teaching of skills Limited to a few types Use to be dictated by teacher	Planned to supplement the teaching of skills but used as individuals need them Limited to a few types Printed directions for their use a common accompaniment	Variety in type Adapted to variety of uses Lend themselves to uses made of them outside of the school Suggestive of other needed materials Suggestive of many and varied uses to suit individual's and group's growing demands Use is determined by the individual's or group's purposes The use of such conducive to child health Tending to large rather than small activities Suitably esthetic

FORMAL	LESS FORMAL	INFORMAL
3. What is adequate storage space?		
Small cupboards, narrow shelves Uniform spaces Placed for teacher's use	A few wide shelves Many bookshelves One or more cupboards available to children	Well-lighted space conveniently arranged Easily accessible to the work at hand Adjustable to changing demands Much storage space to care for large and small materials Conveniently placed for children's uses
4. What is the teacher's responsibility in respect to materials and supplies?		
Central office sends from supply list items needed to complete course of study Teacher selects, distributes and carries responsibility for care and economical use of these supplies	Cooperates in making up yearly supply list Appoints certain children to make available to the rest of the group the daily supply	Contributes to the general list of sources and supplies Searches new sources for needed materials Contributes material of her own Constructs needed materials Experiments with possibilities of materials Makes available to children sources for and means of securing needed materials Makes children responsible for care and use of materials
5. What are the children's responsibilities with respect to materials and supplies?		
Use materials given them as directed Distribute and collect materials when appointed to do so	Most capable children have opportunities for the selection, distribution and care of material All children made responsible for care and use of certain materials assigned to them	Contribute materials from their own supplies at home Construct needed materials at school and at home Seek available sources of material Secure needed material from available sources in a proper fashion Children develop a growing responsibility for the care and economical use of their own materials used by all the group.

A thoughtful comparative analysis such as this is obviously more generally useful and suggestive than a single set of criteria, both in enabling teachers, supervisors, and administrators to place their own type of theory and practice, and in affording a basis for evaluation in respect to the needs of that type. It is safe to say that in general American schools seem to be moving from formal

toward informal, but moving irregularly, with some, indeed many, schools classifiable as distinctly formal, perhaps a few as consistently informal, but with the greater number representing different positions within themselves, as in different grades, different classrooms, or different subject fields. In terms of the features of each type, school staffs and officials may more judicially determine the type which they deem desirable for their respective situations; and by means of the analysis of characteristic features, having decided upon a type, they may check their programs for consistency and completeness.

Provision for optimum use of materials is dependent not only upon its selection, but also upon facilities for assemblage, organization, and distribution. Chapters VI, VII, and VIII deal with these general aspects, including the techniques of selection, purchase, and distribution to schools in Chapter VI; the development of a bureau of materials in Chapter VII, and the part played by supervisors in all the aspects of selection, provision, and use of materials in Chapter VIII.

CHAPTER II

THE ENVIRONMENT AS A PRIMARY SOURCE OF MATERIALS OF INSTRUCTION

FANNIE W. DUNN

As was indicated in the introductory chapter, the environment affords opportunities for first-hand experiences and contacts which are basal to understanding of verbal accounts of more remote situations, and which afford data of a most useful type for general ideas of clear and vivid quality. This chapter presents accounts of such materials of instruction as discovered and used in a number of representative situations, including university and industrial cities, schools of the open country and of small towns, and Indian schools both day and boarding—situations from the north, south, east, and west.

A particularly thoroughgoing illustration of utilization of materials of instruction afforded by the environment is to be found in the social studies program of the elementary and junior high schools of Ann Arbor, Michigan. Practically all the units outlined in the junior high school social studies course utilize the community extensively. Experiences involved include both first-hand contact, as in excursions, surveys, investigations, attendance and participation in social gatherings or public meetings; second-hand or vicarious experience—"learning about"—through printed materials, visual materials, addresses by members of the community, and radio broadcasts; and participation in the organization of informational materials, as exhibits, maps, models, collections, charts, prepared papers, and scrapbooks.

Perusal of the publication, *Helping Children Experience the Realities of the Social Order,* which describes the social studies program of the junior high schools of Ann Arbor, reveals an astonishing number of environmental resources which afford the

basal materials of instruction in the seventh, eighth, and ninth grades. The following are cited, out of many more, as illustrative of first-hand contacts which may be representative of those to be found in numerous communities:

Taking a trip to another school to view crowded conditions, attending a meeting of the Board of Education or City Council; excursions to a gravel pit, the post office, night school, a telephone exchange, museums of various types, an unskilled labor project, a building supply company, the pumping station of the City Water Department, offices in the City Hall, numerous industrial plants, the jail, city and circuit courts, the new Federal penitentiary, a farm, coke-ovens, and the state fish hatcheries; attending a school party sponsored by the student council; investigating the cost of education in Ann Arbor; investigating the reasons for absences in the school; forming a health council to investigate all problems relative to the physical welfare of the pupils; investigating the local systems of garbage and sewage disposal; visiting a nearby spot showing the effects of glaciation; visiting a pioneer home in the vicinity where curious furniture, homespuns, and various other relics have been preserved; and taking a trip to a railway station at a time when a freight train is due.

Materials of second-hand or indirect information, in addition to conventional text and reference books and visual aids, include mimeographed source materials prepared by local experts, such as information provided by the engineers of the city with respect to the method, cost, and social effect of the sewage disposal program of the city; and an itinerary for tours of historical interest in the neighborhood, "especially arranged for history scholars from Ann Arbor schools by the Border Chamber of Commerce, Windsor, Ontario." Source materials are also prepared by pupils.

The pupils of the junior high school utilize very extensively local resource survey techniques both for increasing understanding and for control of environmental conditions. A list of community projects reported in January, 1935, by Miss Faye Coney, one of the junior high school teachers, follows:

ANN ARBOR PUBLIC SCHOOLS

COMMUNITY PROJECTS OF JUNIOR HIGH SCHOOLS

Mack School

Present projects:

1. A chart showing from what wards all of the children of Mack School come. This project was an outgrowth of the proposed plan for building fifty new homes near Mack School.

2. A survey of vacant houses in the district.
3. Mapped Brook Street and secured historical data concerning buildings, etc.

Past projects:

1. A survey of historical places in the city.
2. A model of Main Street.
3. A survey showing where the rural pupils of Mack School live.

Jones School

Present projects:

1. Survey of recreational and cultural centers in Ann Arbor.
2. Each new class must learn the techniques of mapping.

Past projects:

1. A survey showing filling stations.
2. A survey showing locations of farms supplying Ann Arbor Dairy with milk.
3. Utilization map of Ann Arbor—Jones area only.
4. Traffic survey at a dangerous corner near the school.

RESOLUTION PASSED BY THE 9A SOCIAL STUDIES CLASS[1]

Whereas, the executive board of the Parent-Teacher Association of Jones School at its monthly meeting on October 10, 1933, sent a request to the Board of Education through Superintendent O. W. Haisley that some means of protection be provided for school children at the intersection of Catherine and Division streets, said request to be presented by the Board of Education to the proper city authorities; and whereas, the said request was presented to Chief of Police, Lewis Fohey; and whereas, apparently nothing has been done about the matter; and whereas, the 9A class, wishing for some first-hand information about law enforcement in Ann Arbor, detailed themselves to check traffic violations at stated intersection as a class project; and whereas, the findings indicated that out of 533 automobiles passing through this intersection between the hours of 8:15 and 9:25 on the mornings of March 9th, 12th and 13th, 344 cars stopped and 189 did not stop; and whereas, such violations are conducive to accidents, since the person crossing the street at this point expects all cars to stop; THEREFORE BE IT RESOLVED that these findings be presented to the executive board of the Parent-Teacher Association; AND BE IT FURTHER RESOLVED that we, the pupils of the 9A social studies class, suggest to the executive board that this matter be again called to the attention of the proper authorities so that further steps may be taken to insure the safety of the school children and other pedestrians during the busy hours of the day.

The elementary schools in Ann Arbor, besides carrying on a very extensive excursions program, make much use of parents

[1] This was done in the 9A Law Enforcement class. A chart showing the findings accompanied the resolution when it was presented to the Executive Board of P.T.A. and later to Mr. Lutz of the City Council. A committee of the Council investigated and was instrumental in having the state highway re-routed from Catherine Street.

and other persons in the city for talks and demonstrations. A parent came to the school recently and demonstrated to the fourth grade how bread was made. A little Russian grandmother came and showed the children how to spin flax. An authority on bees helped the children to set up observational bee hives in the schoolrooms. A local florist demonstrated flower arrangements before one group. Two or three of the high school boys are directing camera clubs with some of the elementary children.

The Ann Arbor public schools have coöperated with the Washtenaw Historical Association in setting up a historical museum in the schools. The materials are owned by the Association and the display space is furnished by the public schools. At present the exhibit is that of an early Ann Arbor kitchen and living-room. After a few weeks or months this exhibit will be replaced with materials illustrating other phases of early Ann Arbor life.

Some of the elementary schools are using rather widely other social agencies in the community for carrying on educational programs. For example, the members of the Ann Arbor Garden Club are coöperating with teachers in directing junior garden club activities in the various schools. One fourth grade recently undertook to decide for the principal from which dairy to buy the school milk supply. This led to an extensive study of the Ann Arbor dairies and included visits to these as well as to the city chemist, with many other related activities.

It is to be noted in this connection that information which members of the community are able to impart by demonstration or word of mouth, as well as by such materials organized for reading as were listed above, all are in a very important sense materials of instruction.

The following report, furnished, as was most of the preceding material relative to the Ann Arbor program, by Miss Edith M. Bader, assistant superintendent in that city, describes a large project for the extension of first-hand learning experiences of school children.

ANN ARBOR EDUCATIONAL EXPERIMENT STATION

The Ann Arbor Educational Experiment Station was acquired with the idea in mind of extending the actual range of activities of school children and of increasing understanding through concrete experience. While modern life and modern education have tended to extend and multiply the knowledges and contacts of our youth, still it remains true that many facts and contacts remain, as it were, in suspension in the mind of the child or adult because of a lack of basic experiences and observations. It is held that a few adaptive experiences in a markedly different environment tend to unlock the realities of all new environments because the learner has had experience in adjusting himself to strange factors. We learn best by comparison, and comparison requires at least two points of reference.

The Educational Experiment Station located in Clam Union Township of Missaukee County presents to Ann Arbor children several different aspects. Land utilization, land value, wilderness atmosphere, recreational possibility, immigrant farm colony, farm economy, schools, transportation, scenery, wild life, lumbering history, place relation to centers of population, and even climate are all significantly different from home conditions.

The purchase of the land was begun as a student-faculty project of the Tappan Junior High School. Henry J. Miltner, attorney, of Cadillac, generously contributed legal advice in connection with the clearing of the title. The land was bought in at state tax sales in the name of Henry J. Koopman, and the tax deeds were then conveyed to the Ann Arbor Board of Education, which had established a Forestry Commission under the Municipal or Community Forest Act, or Act 217, Public Acts of 1931. Funds, largely receipts from entertainments, were all furnished from the student funds of the Tappan Junior High School.

The tract consists of 212.43 acres of land surrounding a large part of Cranberry Lake, about 180 miles northwest of Ann Arbor. The terrain is rather heavily wooded in comparison with other northern Michigan plains, and is rather broken. The large swamps bordering the lake contain considerable virgin tamarack and some excellent second-growth conifers of various kinds. The smaller swamps are heavily wooded mostly with balsam, spruce, birch, and cedar.

This cover is utilized by a fine deer herd, many grouse, and a variety of hares, in addition to bear, fox, wildcat, beaver, and muskrats. The lake is a haven for local ducks and is, of course, visited by migrating waterfowl in large numbers.

The advantages of the camp site lie not only in its resources but also in its location. A trip to the camp takes the child through Michigan's capital, past one of the few coal mines of the state, through the oil country, into the rich and poor farming districts; within reach of the Hartwick Pines, of Michigan's largest fish hatchery, of a Civilian Conservation Corps Camp, and of Michigan's deserted agricultural district. All of these educational advantages are utilized in such a manner that any interested child will have the opportunity to visit and study them.

Each trip involves coöperation and preparation by all departments. The students provide their own food, equipment, and necessities. Each group attempts to add some new development to the camp on its excursion. The long ride necessitates group living and socialization. The lack of coöperation on the part of any in camp will mean direct hardship upon the whole group. Because the child feels that he is so far from any assistance from home or loved ones, he rapidly learns the most important thing in life, namely, how to live and work under adverse conditions with all types of individuals.

No project that has been attempted by secondary schools can equal the experimental station for training in citizenship and conservation. The child immediately feels the effects of poor or good adjustment to the group. The introvert, pampered child, bully, and thief soon experience a new realization of what life really can be for the one who lives and works harmoniously with others. The boy whom the group did not like in the beginning often "comes through" very creditably before the end of the excursion.

The child witnesses at first hand the functions of the various departments of the government; state, county, and township units become realities to him as he realizes the relation to his project. He needs the coöperation of the county and township to keep the bridges in repair and the state to help preserve and protect wild life.

In order to visualize the present utilization of the project, let us review one of the recent trips. The group consisted of boys selected from 7B and leaders from the Lake Council. The guidance was placed in the hands of two members of the faculty. A meeting of all the interested parties was then called to discuss the purposes and plans of the excursion.

The Home Economics Department was asked to formulate the menu for each day. The food list was divided and each boy brought his share. Every boy was also asked to bring the necessary money for transportation charges. The leaders then aided the new boys in selecting equipment and checked each one for the required amount.

The various points of interest were pointed out to the boys on the journey, and occasional stops for inspection of historical and commercial places were made, such as the oil wells and county seats. Sufficient historical maps were available for all who cared to follow the course in detail.

On arriving at camp, the new boys were suddenly thrown into a new environment with new experiences and problems. One cabin is not sufficient for all to sleep in, and thus the preparation of the lean-to and extra tent became necessary. The weather demanded protection against rain or snow. Every boy soon learned that each one had to look out for himself and do his part or all would suffer. He soon began to enjoy the bumps and inconveniences with the realization he was "on his own."

The rising sun found many of the younger boys waiting to catch a glimpse of their new environment. All were soon astir and the desire for

food forced some to gather wood, others to prepare the meal, and others to provide for ways and means. The task of dishwashing, unpleasant at home, took on the aspect of fun and frolic in the open. The boys then examined the cabin, the lake walk, and other improvements former groups had contributed. They began to make plans for future projects in development, and also made some immediate provision for improved sanitation. A study of the water supply and care of garbage revealed necessary changes.

After the camp tasks had been completed and the group had made the cabin a better place in which to live, full sway was given to imagination, creativeness, and the desire to explore. Laughter and shouts of exclamation could be heard from lake, swamp, and woods. Many were the trophies and discoveries of the day and many were the wild stories, humorous songs, and speeches at the evening campfire. No finer spirit of socialization and citizenship can be found than that which the observer witnesses developing among the boys at the end of the second day in camp.

The third day is spent by taking side trips to the Hartwick Pines and Grayling fish hatchery. The truck stops along the way to permit the boys to see the farmer preparing for the winter by patching up his log house with sod and mud. Little had they realized that so many different types of living existed in their own state.

Tired, exhausted, and hungry, they return to their homes. Their minds have been filled with ideas, imaginations, and memory pictures upon which they can draw for the rest of the year. They are filled with enthusiasm to return and add new things to their camp. They have learned the joys of freedom in imagination, creativeness, and the art of living with their fellow-men.

Much greater progress could have been made if time and money had been available. The students are eager and ready to do their own building, carry out their own sanitation projects, and finish their own improvements. Lake Wilderness lures their imagination, ambitions, and self-expression. However, all new things require the interest of those behind the child. As soon as the parents of Tappan Junior High School begin to realize the real value of this new experiment, there will be no limit to its possibilities for health, education, socialization, and character training. New things require new sacrifices and new visions.

Lest the reader may feel that the environment holds a wealth of resources only in a highly favored situation, as the school system from which the preceding illustrations are taken may seem, the next account is presented from a two-teacher country school in a rural county of New Jersey.

USING THE ENVIRONMENT IN A COUNTRY SCHOOL[2]

This school is one of six grades with two teachers. The unit was carried on in grades 4, 5, and 6.

Practically all of the children in the school are of foreign-born parentage, either Polish, Ukrainian, or Dutch. The parents all farm and the children have a large share in this work. They are poor and have few conveniences. Only one has a radio, none have electricity, few have ever been to a movie and they only once or twice. Newspapers, magazines, and books are scarce. The experiences of the children are very limited.

When I began in the fall to study the community for resources, I saw that very obviously nature was its greatest resource. The class was divided into groups according to the nature hobby each child wished to pursue and the particular phase of nature he wished to study. In addition to this, there was a large class activity. Each child chose, either on his farm or a neighboring one, a small piece of ground to observe. This was his nature plot. He chose his plot according to his interest. If he happened to be particularly interested in water life, he would choose a plot where he could best study water life. He spent a good bit of his spare time sitting quietly in some spot in his plot observing. He recorded his observations, wrote them up, and illustrated them in a plot notebook. Each child made a diagram of his plot for his notebook and referred to it in telling his stories.

I made weekly trips to the homes of my children and visited their plots with them. They showed me the things they were doing—the gardens they were making, the nature museums they were starting, their favorite haunts, etc. Through these walks I learned much about the child, his interests, and his home life.

In the course of visits to their plots or nature walks, the children found a great many Indian arrowheads, spearheads, and axes. Brought into school and examined, these aroused an interest in the Indians, the former dwellers of the community, to such an extent that Indians became the main topic of conversation during their lunch and recess periods. The children wanted to know all about them.

Consequently I began a study of the Indians of the community, using every available resource for teachers. The county library furnished a history of Warren County, and I was also able to obtain maps and information concerning rock shelters and caves. With the help of these, I took trips to find the shelters and the trails. I also made a visit to the State Museum to learn whether the Indian and nature exhibit there would be valuable for the children to see. Finally I went to visit Dr. Cummins, a resident of the county seat, who probably knows more about New Jersey Indians than any other man today, and he gave me much information. With this material in hand, I was able to write a story of the Warren County Indians. This story was mimeographed for the children's use, as there was little material available on the children's level.

[2] Abridged from a report by Julia Weber, teacher of intermediate grades, Quaker Grove, Warren County, New Jersey.

The study began with an examination of the arrowheads collected. This was followed by a discussion of the things the children already knew about the Indians in the community. A Warren County map was examined for Indian names. The children asked many questions, such as, What did the Indian names we found on the map mean? What did the Indians eat? Did they really eat raw meat? Were the Indians really red? How could they make their arrowheads? All of their questions were listed to be answered at some time during the unit. The children added more questions as the study progressed. . . .

The discussion of the picturesque names of the clans led to a discussion of the stony country of Warren County and of where and how the Minsi Clan lived, since Minsi means "people of the stony country." For the next few days, using mimeographed material, the children read and discussed the homes of the Indians—why they chose certain places, what trails led to their homes, which were the main highways, and why. The choice of the homes and trails is so closely related to the topography that it was necessary for the children to make a study of the topography in order to understand the answers to these questions. Through this study the children learned about the effect of the glacier, the meaning of terminal moraine, which crosses the center of the county, why we have muck lands in the mountains, etc.

Many of the parents are dependent on the muck lands for their living. Now the children could more fully understand the nature and the origin of the muck lands. They could better understand why certain caves were chosen and others neglected. They could also understand why Great Meadows was such a favorite spot with the Indians. They began to see certain generalizations—that trails tend to follow natural highways, that water supply attracted settlements, that man's home and occupation depend to a great extent upon the environment. During this study the children made topographical maps of Warren County for their notebooks, indicating on them the main Indian highways and sites, and rock shelters. Those who finished first began to work on a large class map. During this study, the children visited three rock shelters, one of which is only a mile from the schoolhouse. The children decided that they would like to make a rock shelter with a habitat grouping.

Up to this point the whole class worked together. When work began on the rock shelter, the class was organized into committees. One group worked at the rock shelter, making the frame. Another group painted wrapping paper gray to represent rocks. Another group worked on the large class map. Another group made the Indian figures which were to inhabit the shelter. Working on the shelter and deciding what was to go into it to make up the habitat group made it necessary to find out what the Indians looked like, how they dressed, what they ate, what furniture and utensils they had, and what their occupations were. . . .

Toward the end of the study, the children asked to give a play. The primary children also had been studying the local Indians and had a play. Both of these plays were given one evening at a Parent-Teacher Association meeting and a collection was taken, the proceeds of which were used

to transport the children to the Trenton Museum to see the nature and Indian exhibit there.

On Saturdays, during the study, I took the children in groups of four over the Kittatinny mountains to Pahaquarry township, and down an old Indian trail following the Delaware River. It might be interesting to know that this trail was widened into a wagon road by the early Dutch traders who took copper from the mines at Pahaquarry to Albany, a hundred miles away, and shipped it from there to Holland. Our trip was a round trip of 40 miles beginning at my home and ending there. Before I took the children to their homes they had dinner with us, listened to the radio, and chatted. This was an entirely new experience for them and a very enjoyable one for all of us.

The children are still very much interested in Indians. Half of the class have begun museums of Indian relics. There has been increased awareness of the environment. The children do not consider their surroundings as commonplace as they used to. The community is now an interesting place in which to live—it has a quality of adventure and importance that it did not have before.

Most significant has been the growth in my understanding of the children and in their understanding of me through close informal contacts both in school and in situations outside of school. It has enabled me to have conferences with the child on very personal matters and to work with him in the process of his becoming.

From the Indian schools of the western part of the United States have come the following illustrations[3] of important materials of instruction afforded by the local environment, particularly the nature environment.

USING THE ENVIRONMENT IN INDIAN SCHOOLS

The curriculum is based directly on the experience afforded by the *total* environment, including as it does the social, the natural, the cultural, and the economic phases. In school practice, as well as in actual tribal life, these phases are so closely interrelated and so interdependent that except for emphasis it is scarcely possible to discuss the elementary program from a single angle. An attempt will be made here, however, to indicate the importance of the nature environment in the total plan, and emphasis will be placed on the rural life phases of Indian existence.

As is the case with other rural children, Indian children share intimately in all phases of family and community life. In so far as is possible, therefore, school activities are likely to parallel those of the community. When preparations were being made for the Shalice, a celebration in dedication of the new homes in the village, Zuni children's school art, their stories, their calendars, and their conversation were concerned largely with matters relating to the coming fiesta. In October, interest centered about piñons;

[3] Abridged from a report by Rose K. Brandt, Supervisor of Elementary Education, Indian Service.

in February, it was prairie dogs; and in March, pottery. When at McCarthy's a new church was under construction, the children actually participated by peeling and hand-carving the vegas placed above the chancel, and they studied early church architecture of the Southwest. In a Sioux day school, in the fall of the year, serious consideration was given to the necessary preparations that were under way for "getting ready for winter." These included, among others, such work as digging and storing potatoes, canning, drying meat, and banking the house at the foundation to keep out the cold. An illustrated compilation of children's individual oral reports of what was actually being done at home in the preparation for winter formed a valuable reading table booklet giving a composite of minimum steps that must be taken by all rural people in that northern area if they are to survive the long winter period without hardship. Pueblo children's art, too, evidences this same tendency to reflect the immediate community activities. Buffalo and deer dances are likely to furnish the theme during the hunting season; a field of tender young corn plants or a peach orchard will probably serve as inspiration in spring; and in the fall the red pepper furnishes the motive for a gathering-peppers scene or a Pueblo home scene with the brilliant red peppers pending from the vegas.

School gardening has long received considerable emphasis, especially in the Sioux country, the products forming an important part of the daily school lunch served in all these day schools. Selection of seeds, planning of the plots, preparation of soil, planting and transplanting, furnish a stimulating basis for mental and physical school activities in the spring of the year. Home gardens, too, are fostered. At Oraibi the children raised such an abundance of spring vegetables that the people of the community were glad to buy all that could be spared. This necessitated keeping careful records of transactions and afforded a basis for valuable simple but practical business experience.

The importance of local food sources received attention in the Ponema School at Red Lake during the season for harvesting wild rice, emphasis being given to the superiority of the Indian method of gathering rice over the machine method of the white man because of the injury to the plants by the latter method. Also, the special dietary value of the whole rice as opposed to polished rice received attention. In an attempt to help children realize the possibilities of self-sufficiency and independent living in the Pine Point community in Minnesota, each child was encouraged to bring to school a vegetable raised by the family. The result was such a bewildering variety of vegetables that the school cook suggested a community dinner. The study of fish also formed a meaningful part of the curriculum at this same school and included raking up and burning dead fish washed ashore, in order to eliminate a source of fly breeding. Maple sugar time again furnished valuable curriculum opportunities.

Animal life forms an important basis for school activities. A consideration of the value of sheep in the life of a Pueblo community led to an absorbing study of the part sheep play in meeting various needs of the entire world, geographic location of sheep raising industries, marketing,

manufacturing, etc. Opportunity for manipulative participation was provided through hand-carding, dyeing and weaving the wool, tanning the hide and making shoes according to the Pueblo pattern for their own use. At Shell Creek, North Dakota, children kept milk and feeding records of the high type school cows and each boy kept a similar record of a cow at home over a stated period. At Cornfields, Southern Navajo, last spring enough hens were set at the school to enable every family represented in the school to receive a small brood of little chickens.

Local wild animal life receives considerable emphasis in most Indian schools. Bird study for identification and æsthetic enjoyment is carried on in practically all day schools. At Jemez, New Mexico, the children cared for several reptiles; insect life, too, received study. At Riverside, Oklahoma, a group of six-year-old children gathered so many animals that they virtually turned their classroom into a menagerie. A snake, rabbits, a turtle, and a raccoon are merely indicative. The next year they raised bees.

An herbarium comprising mountings and descriptions of useful desert plants gives evidence of the type of canvass of the community that was made to become familiar with local plant life. A few medicinal plants with alleged therapeutic value are also included in this record made by a Navajo girl from San Juan Boarding School. Studies of local wild flowers for identification and enjoyment are commonly made at Sequoyah, Oklahoma. A wild flower garden was made and some attention by children given to landscaping of grounds. Experiments were conducted to demonstrate plant needs for water, warmth, sunlight, and proper food. At Riverside in the same state, children's conversion of the woods across the road from a school dumping ground into a beautiful park led directly to a botanical study of trees and local wild flowers.

At Neopit, Wisconsin, where the Indians operate their own saw mills, an excellent study of trees and lumbering developed. Identification of trees by bark, wood, and leaves was undertaken. The uses of trees for purposes of lumber were considered as well as the modern laboratory uses as exemplified by paper made from pulpwood, the construction of cellophane, buttons, etc. Lumbering as a world industry, shipping, and manufacturing were studied. Value and uses of sawdust were included. Visits were made to the sawmill. Labor received consideration.

Crafts based on local environmental materials are capitalized as a basis for school activities. In several of the Pueblo schools the parents accompany teachers and children on excursions to locate dye plants to be used in dyeing wool. Similarly, parents participated in excursions for the purpose of locating earth colors to be ground and used for painting at school. Tanning leather and the resultant study of leather and leather products is fairly common. At the Pine Ridge Boarding School an ungraded group of children tanned skins and prepared both sinews and sole leather for moccasins, sewing on the beads with their own thread made from sinew. They secured porcupine quills and dyed them, also, in the old manner of their tribe and used them in leather decoration. As eagle feathers are no longer procurable, small chicken feathers were dyed for use in their tribal decorations.

Since this statement is intended largely to indicate the curricular use made of the nature background in Indian communities, all reference has been omitted here to the part of native dances and other social activities of the community, native songs, and arts and crafts in the curriculum. It might not be out of place, however, to call attention to a few practices that are immediately related to the agricultural phase of Indian life. In Jemes, where one of the teachers owns a small movie camera and projector, pictures were taken of the entire gamut of activities involved in the production of wheat. The reels show the primitive hand method of sowing by broadcasting, cutting by sickle, the horse-tramping method of harvesting, and the hand winnowing. This is to be extended to include additional reels on washing, drying, grinding, and baking. A puppet show involving work in art, agriculture, literature, and drama was developed by sixth grade children in Santa Fe in connection with a study of corn as a factor in pueblo life. In Nambe, the weekly school newspaper, costing two cents an issue, records community activities, such as, the women canning 200 cans of vegetables and meat, failure of the apple crop because of scarcity of water, necessitating a bus trip to another village to pick apples for community use, the women stringing chili, the market prices of green and red chili, and the men going deer hunting. At Crystal Bay School, Southern Navajo, a play on soil erosion was developed by the children. This was a summary of their study of soil erosion, which included some planting of willows under the direction of a specialist.

These three illustrations indicate some of the types of resources —materials of instruction in the most fundamental sense of the term—which are to be found almost everywhere where schools exist. These resources include opportunities to observe the materials and processes of nature, to relive the past through contact with historical remains, to gain concrete evidence of the influence of earth factors on human living, to see the agencies and institutions of society in action, and even to participate to some degree in the control of nature and in the processes of society.

Such descriptive illustrations as these could be multiplied almost infinitely, but limitation of space necessitates more condensed treatment for the remainder of this chapter. The list which immediately follows shows the scope of environmental resources which may be found in schools of the open country, village, or town. Not all the resources here compiled would be found in any one situation. The list was prepared by a group of forty teachers and supervisors from widely scattered sections of the United States, each of whom contributed the resources found in the rural community she knew best.

COMMUNITY RESOURCES FOR EDUCATIVE ACTIVITIES IN COUNTRY SCHOOLS

A. Occupational activities.

1. Farming, agriculture.
   General farms; grain farms—wheat, corn, oats, hay, cotton, potato, tobacco, peanut, truck-celery, market garden, mushroom houses or cellars, mint farm.
   Dairy farms, stock (beef, etc.), stock breeding, sheep, rabbit hatchery, silver-fox farm, saddle horses, poultry (geese, ducks, chickens, turkeys), apiary, fish-hatchery.
   Fruit (cherry, apple, peach, citrus fruits, dates, berries, grapes), maple sugar orchard, tree nurseries.
   Flower nurseries, bulb farms, greenhouses.
   Irrigated farms, dry farming, experimental farms, "101 Ranch," the large neighborhood estate, the home farm, the school farm.
2. Farm service occupations.
   Direct services: blacksmith shop, creamery, grist mill, coöperative associations, veterinarian, local grain elevator.
   Supplying tools and materials: box and basket factory; barrel factory, gate factory, John Deere farm machinery, domestic engine factory, Sharpless cream separator.
   "Processing" farm products: dairy, creamery, cheese factory, ice cream factory, powdered milk factory, condensery, fruit and vegetable cannery, mushroom cannery, pickle factory, flour mills, meat packing plants, Smithfield ham plant, molasses making, tobacco stemmeries, tobacco factories, cotton ginning, cotton mills, woolen mills, breakfast food factory.
3. Manufacturing.
   Generating power: power and heating plant of local institution, power from river, river dam just being built, "high tension" line crossing neighborhood, Muscle Shoals.
   Manufacturing producer's goods: steel mills, lumber mills and sawmills, foundry, oil refinery, zinc smelter, gas plant.
   Manufacturing consumer's goods: pump factory, aluminum factory, paper mills, paper-tag making, tile and pottery factory, brick plant (kiln method, new method), glass factory, eyeglass factory, charcoal making, leather manufacture, candle factory, candy making, shirt factory, hosiery mills, thread mill, textile making (by hand, by machine), quilt making, broom factory, soap factory, salmon cannery, ice plant, Heinz canning factory.
4. Fishing.
   Fish shacks, oyster shacks, fishing fleet, clamming, experience in fishing in inland lakes, streams.
5. Lumbering.
   Lumber camp, lumbering.
6. Mining.

Coal mines, stone quarries (limestone, granite), old copper mine, hills washed down by hydraulic mining for gold, oil deposits, salt mine, marl deposits, old iron mine.

7. Transportation and communication.
   Freight and express offices, railroad station, trains, station where steam engines are exchanged for electric for metropolitan district, trucking, U. S. transcontinental highways passing through neighborhood, buses, wagons, river bridges, buggies, moving vans, tourist camps, viaducts, tunnels, river transportation, canals, ocean transportation, boats, docks (shipping), river junction (Ohio, Monongahela, and Allegheny) air port, air mail route passing over, James River bridge (longest of its kind), new road to Hindman (mountain section), Kentucky.
   Telephone and telegraph companies, telegraph office, telephone exchange, telephone and telegraph cross country lines, radio, radio broadcasting station.
8. Trading, the "middle man" service.
   Stores: general store, meat market, furniture store, five and ten, drug store, grocery store, department store in nearby city, antique shop, filling station, "chain" store, bakery.
   Wholesale market, retail market, stockyards.
9. Professional and personal services.
   Local doctor, dentist, lawyer, teacher, minister, banker, publisher (newspaper), weather forecaster, photographer.
10. Miscellaneous services.
    Garage, laundry, cleaning and pressing establishment, carpenter shop, printing office, summer boarders and tourists.
    Building—new homes being built.

B. Institutions.

1. The home: homes of the community; Kentucky mountain farms and homes.
2. Church and related organizations.
3. Educational.
   School: university, teachers' college, college of agriculture, private academy, public school.
   Museums: historical, geographical, geological, natural science; small private museum, Carnegie museum and library; zoo, art gallery; museum collections in school.
   Library: private collection, school library, local town library, county traveling library.
   Newspapers: local daily paper, weekly paper, magazines.
   County fair, school fair, state fair, fall festival.
4. Government.
   Governmental processes: town-meeting, election held in school or in nearby town hall; county court house: records, issuing of licenses, court proceedings; county jail, state capital, tax collector.
   Government services: postal service (post office, local delivery service),

police service, safety patrol, U. S. coast guard, forest rangers, fire department, road building and maintenance; extension service—county agent, home demonstration agent, club work; government publications—agricultural bulletins; care of unfit—poor farm, hospitals for insane, mentally defective, blind, deaf, U. S. Veterans; lighthouse, government airport, water reservoirs, filtering plant; conservation—half grown "state forests," child participation in reforestry projects, weather bureau station.

5. Economic institutions.
   Banks (savings, commercial); insurance companies—local barn burns, is insured, immediately rebuilt; man in community injured, receives accident insurance; members of family carry life insurance policies; stock and grain market: family listens to market report over radio.
6. Recreational institutions.
   Boy Scout Troop, Girl Scout Troop, Y.M.C.A., Y.W.C.A. in nearby town, movie, theatre—famous "Little Theatre" nearby—country club, riding club, hunt.
7. "Service" institutions.
   Hospitals: general, tuberculosis sanitarium, etc. (see Government); orphans' home, old people's home, welfare society, Automobile Association—patrol of highway.
8. Patrons of Husbandry or Grange, community club.

C. Recreational opportunities.

1. Recreational reading: vacation reading club.
2. Music (listening or participating): piano in home, child is taking lessons, radio, victrola.
3. Play activities (places to play, companions, time, play equipment).
4. Pursuit of individual interests (constructive and creative activities, collecting, sports, hobbies, etc.).
   Lake, creek for fishing, Audubon Club.
5. Engagement in "social" activities (picnics, outings, clubs, movies, etc.): camp site on river; local Grange which children attend with parents; Saturday night trip to town, many attend movies.

D. Historical.

1. History of civilizations.
   Fossils, mounds explored by archæologists (Kentucky), Indian mounds, Indian graves, Indian relics, arrowheads; Leni-Lenapi Indian territory, Osage Indian territory; Indian names of places, stories of Indians; people who have experienced contacts with the Indians, man who knows Indian history, Indians living on reservation.
2. Early life of the people.
   Colonial homes, furniture, dishes, etc., log cabins, sod houses; site of fords at the river; old mill with ruins of mill race; site of first court in county, old colonial court house, old covered bridges, octagon schoolhouses still standing, Old Forge Inn, which preserve forge, bellows, etc. as they were; school built on site of old fort; people

living in community who took part in "race" for homesteads in 1893; Daniel Boone trail marker, Peter Jones Trading Station; Turk's Head Inn, dating from early days; old whaling station, Old Blanford Church; Tales of Jesse James and his gang; Block House, The "Quare" women, Old Santa Fe Trail, Boone Wilderness Road.

3. Growth of the nation.
   Jamestown, Virginia.
   Landing place of William Penn at New Castle, Delaware; Dutch Settlement at Lewes, Delaware, 300 years old; Pocahontas Basin; Revolutionary War scenes, Washington's headquarters, bed in which he slept in house on campus, Valley Forge, Brandywine, Lafayette monument; Birmingham meeting house, which served as hospital, tree on school ground, under which Cornwallis and his men halted in retreat; Washington's Crossing; spot of Niblo's tavern where Lafayette was entertained; Civil War scenes: home that was station of underground railway at Peterboro, New York; headquarters of General Lee, General Grant; home of General Mahone; confederate tunnels; Forts Henry and Sedgwick; Crater battlefield and museum.
4. People of note.
   Home of Bess Streeter Aldrich; Owen D. Young, Bertrand Snell (Speaker of House), Charles Curtis; Bayard Taylor and the Story of Kennett; Joseph Hergesheimer.

E. The cultural heritage.

1. Our own cultural heritage.
   The language: English spoken exclusively in home, but of crude, inadequate type; child comes from home where excellent English is spoken.
   Literature: folk tales and ballads of the mountains (Kentucky). Folk tales of the southern Negro.
   Music: Music Week; band and orchestra concerts, Annual County Music Festival.
   Art forms:
   Architecture: Memorial chapel at Valley Forge; old colonial mansion; new homes being built.
   Landscape art: parks, Longwood Gardens (Du Pont estate), Walnut Hill (residence section) homes.
   Pictures: Peale portrait of Washington in library; private art collection made available at times; art colony in community.
   Statues.
   Furniture, pottery.
2. Contributions of other racial or national groups.
   Negro: tales handed down from earlier times, spirituals and work songs.
   Pennsylvania Dutch, Mennonite, Amish groups.
   Italian: language, love of music.
   Polish: language.
3. People who have acquired great familiarity with the cultural heritage.

People who have traveled widely, woman with special music education, college graduate of liberal arts college with special literature course.

F. Nature.

1. Inorganic nature.

Topography, land forms: rapid rise from foothills to Adirondacks, seashore, hills, mountains, foothills, lagoons, sand dunes, level valley, ravines, faulting and tilting of rocks, glacial formations—drumlins, rocks, etc., natural tunnel.

Rocks, soils, minerals: glacial boulders and drift, mineral deposits, marl deposits, limestone rock, granite, gravel bed, clay soil, sand, drainage ditches, "cuts" in state roads, interesting geological formations, shells on seashore.

Water forms: creek, river, lake, ocean, waterfall, spring, floods, St. Lawrence River (18 miles), junction of Ohio, Allegheny, and Monongahela Rivers, snow; remains of bridge destroyed by Johnstown flood.

Atmosphere and weather: wind, rain, snow, frost, "muggy" days, fog, thunderstorms, drought, smoke rising some days, hanging low other days, clouds, tiny "whirlwinds," rainbow.

Seasons and our solar system: tides, seasonal change, sun and shadows, changing length of day and night, sunrise and sunset, the sky at night, moon and its phases.

2. Plant life.

Woody plants: growth of second timber, half grown "state forests," wood lots, grove across road from school, many trees along nearby river, coniferous and deciduous trees on school ground, maple, beech, pine, redwood trees, stump house made of redwood.

Shrubs: Azaleas, rhododendron, wild lilac.

Nuts.

Non-woody plants: fields, meadows, pasture lot; weeds.

Ornamental herbs and wild flowers: wild flowers on school ground and in nearby pasture, redwood violet, trillium, Indian stars, wild columbine (most rare species); desert flowers—verbene, yellow lupin.

Aquatic and marsh and bog plants: cat-tails, swampy portion of school ground where water weeds grow, sea-weed.

3. Animals.

Birds (birds of the open air, of the trees and shrubs, of the waterways, of the drier ground) birds of prey; domestic birds; game birds: pheasants (children paid by state to raise them), partridges, water-birds, ducks; heron, red wing, blackbird, winter birds; feeding stations, spring and fall migrants, summer residents.

Insects and their kin (invertebrates—small animal life in fresh waters, marine life, domestic insects, insects of the trees and shrubs, on low plants, found on and underground, preying insects); wasp nests; mud dauber, paper maker, moth, Luna, Polyphemus; life cycle of moth; life cycle of butterfly.

Mammals (mammals of the waterways, small mammals found commonly off ground, on or under drier ground, big game, zoo mammals; domestic mammals); deer, small fur-bearing animals (children trap them), squirrel, rabbit, mole, weasel, skunk, beavers.
Fish: fresh-water fish, snails, clams, etc., from river shore.
Amphibia and reptiles: frogs, toads, salamanders, turtles, snakes, alligators, lizards, tadpoles.

The resources of a single limited area are represented by the three following inventories: the first, of a county in North Carolina; the second, of uses of environment made by one teacher in that county; and the third, of the art resources available to one school in a small Connecticut town.

INVENTORY OF AVAILABLE RESOURCES WAKE COUNTY, N. C.

I. How assembled.

The Seventh Grade Teachers' Organization undertook to make such an inventory, and set up an Environment Investigation Committee to compile reports. Each seventh grade teacher undertook: (1) to send the chairman of the committee a list of all educational resources discovered in his or her community; (2) to plan and take one trip for the purpose of using environmental resources; (3) to report in detail how one resource was used; (4) to report all uses made during the year of available resources; and (5) to plan a list of interesting places for summer visiting.

II. Compilation of all lists of resources.

Occupational activities: dairy farm, game preserve, pet farm, animal farm; creamery, tobacco warehouse, cotton gin, sorghum making, canning clubs; cigarette factories, cotton mills, soap factory, saw mills and saw mill camps, power plant bakeries, chair factory; rock quarry; log trains, freight office, express office, ticket office, airport, trains, highways, county roads, broadcasting station; photographer, home and farm demonstration agent; general, grocery, hardware, and dry goods stores, city market, curb market; gas stations, janitor, carpenter, house being built, school gymnasium being built, lunch room, cafeteria, hotel.

Institutions: church; state agricultural college, with its textile department, experimental farm, observatory, ceramics department and library; state laboratory of hygiene; dog and cat hospital; local Junior Red Cross; state historical association; state museum; library with children's and adults' departments; school for the blind; Soldiers' Home; Old Ladies Home; state capitol; county courthouse with offices of board of education, auditor, sheriff, clerk and register of deeds; state weather bureau; local post office; state naval office, state highway department; highway patrol; banks.

Recreational opportunities: state and community fairs; theaters, log cabin theater at Ebenezer School; Folk Players; flower shows in fall and spring; dogwood festival; library facilities; picnic places on local lakes;

interesting gardens; community music night; fiddlers' convention; community play night; local bands, local fiddlers; music stores; local swimming pools; nature trails; zoo; amateur photography.

Historical resources: Indian relics found in community, folklore society; Miss ———'s collection of colonial pitchers; Mrs. ———'s quilt exhibit; Mr. ———'s old guns; Mr. ———'s old money; historical names in the community; names of streets in nearby city; antique shop; replica of Mount Vernon; colonial costumes in one of the schools; location of old stage road; historical homes—W. H. Page, Andrew Johnson.

The cultural heritage: collection of folk tales at Duke University; Dr. Odum's collection of Negro work songs; Mr. ———'s collection of folk tunes; Christ Church as an example of fine architecture; other resources already listed under other categories.

Individuals of community: Mrs. W. ——— has photographs of state, which she will lend; Mr. ——— is a good P.T.A. speaker; Dr. ——— is a connoisseur of books; Mr. ——— knows pottery; Miss ——— has lived in China; Dr. ——— knows rocks; Mrs. ——— has visited in Holland; etc.

USE MADE OF ENVIRONMENTAL RESOURCES

Unit of Work—Our Changing Civilization

1. Raleigh—museum, city market, city water plant. To study developments in our changing civilization.
2. Garner School—to attend their Book Fair, which showed progress in book-making, and to exchange ideas about museums.
3. Apex and Green Hope Schools—to study their museums, which were considered the best organized in the county.
4. Several visits to the library: (a) to secure books on our unit; (b) to browse around and become familiar with books and magazines, and to read for pleasure; (c) to discuss with the librarian our plans for Book Week; (d) to check our book order with her; (e) to give an original play for the library story hour; (f) to arrange an exhibit on rocks and soils from our room, and to collect books and informational material which the library had on this subject to go with our exhibit; (g) to select books for our summer reading club (this group sponsored the adult community reading club all year in their school).
5. A visit to Edwards & Broughton Printing Shop to see (a) the development of the printing industry; (b) the whole process in making a book.
6. A visit to the State School for Blind to get ideas about what is being done for the blind in the general field of bookmaking.
7. A trip to the Wake Company Children's Fair to see the outcomes of other units of work and classroom activities.
8. A conference with a local mason when building our aquarium and our rock wall.
9. Visits to the supervisor's office: (a) to study its arrangement; (b) to locate materials; (c) to plan with the supervisor our contribution to the Children's Fair.

10. The county superintendent's office: (a) for information about changes in education in Wake County; and (b) to borrow pictures and pamphlets showing these changes.
11. The Weather Bureau, to find out the progress made in the field of broadcasting.
12. The prison camp near by, to compare present methods of punishment for crime with old ones.
13. A visit to Dr. Hunter to see his parchments and Babylonian Tablets. Compared with modern books in our library.
14. Shopping trip to Raleigh to buy materials for furnishing our rest room.
15. Had a fiddlers' convention, using the local musicians for P.T.A. program.
16. Our grade mother helped us to cut our curtains. She took us on many trips.
17. Visited Mrs. B———'s and Mrs. P———'s homes to see their wild-flower garden, pool, and bird baths before making ours.
18. Made many excursions into the nearby fields and woods for definitely needed materials or for pleasure.
19. Planted our grounds with native wild plants and shrubs from homes.
20. Went to see Melville's grandmother to watch her quilt and to learn to spin and weave. Also visited State College Textile Department to see contrast in method.
21. Visited Ebenezer School to see their cabin and to have Mammy Jones show us how to carve spoons from wood.
22. Many copies of the *National Geographic* were given to us during Book Week.
23. All of us went to the State Fair, to the State College ceramic exhibit, and to the electrical fair.
24. Our janitor, who is a good carpenter, helped us a great deal.

ART RESOURCES[4]

The children of the sixth, seventh, and eighth grades of Towpath School have made a survey of what is beautiful in this section of Avon. Many natural beauty spots were reported. Each year artists from nearby colonies and schools may be seen sketching and painting about the country side. Especially worthy of note is the beautiful view of the Farmington Valley from Talcott Mountain. Here the evening skies draw many admirers.

The Heublein Tower on the northern part of the mountain is a landmark tourists never fail to notice.

Recently a monument has been erected and a park built by the mountain road to honor MacDonald, the pioneer road builder, who first built a road over the mountain.

The Town of Avon prides itself on many original colonial buildings. The Congregational Church is beautiful in its simplicity. There are many homes of early origin.

[4] Compiled under the direction of H. C. Smith, teacher of these grades.

Many attractive homes have been built in recent years and the favorite type of architecture is, as you may well imagine, colonial.

A large preparatory school has been erected on the old Farmington Road. I have been told this was copied from a school in Oxford.

The Avon Country Club house and its beautiful grounds should be mentioned.

The townspeople have every right to be proud of their many heirlooms of furniture, pewter, needlework, and pottery.

Many local people have developed beautiful flower gardens; lawns are attractively decorated with evergreen trees and blossoming shrubs.

There are notable collections of stamps, photographs, Indian relics, and the like.

I have been unable to list the many locally owned original oil or water-color paintings, block prints, etchings, and charcoal drawings.

It is my belief that the children of Avon have resource to many varied art pieces, and that this survey will tend to revive interest in beautiful things, many of which have been tucked away out of sight.

The inventory from which the above extract is taken reports in detail items of needlework, sculpture, architecture, furniture, pottery, metal work, design, picture, landscape, etc. For each item the name, the owner, the location, the artist, and remarks are given. Examples only can be quoted here:

Embroidery, Sampler, Mrs. J——— E———, Avon. Very old and beautiful—done on burlap.

Public building, Library, Town, West Main Street, Bassett and Bassett, Colonial Building.

Garden, Rock Garden, Peter B———, Canton Road, Bernard Eddy. Flowers are planted so they bloom in different seasons.

Fireplace, Mrs. L———, West Avon, ———. Mrs. L———'s home is full of old furniture and dishes.

Locally Developed Reading Materials

First-hand experiences offer the starting point and the raw materials for understandings, appreciation, and organized ideas. It is generally recognized, however, that elaboration and supplementation of such experiences by means of discussion and reading are necessary. A problem commonly met is the provision of pertinent printed matter for reference use. This need is met in many situations by the development, usually coöperative, of the required informational materials.

An excellent illustration of locally prepared reading matter is found in an interesting article by Max J. Herzberg,[5] Principal of

the Weequahic High School, in Newark, New Jersey, which appeared in *Educational Method*, April, 1934. This article, which describes a project initiated by John Cotton Dana, the late noted librarian of Newark, has been abridged in the following account:

About 1903 the Newark Public Library had sought for literature of interest to young people on the history, population, government, industries, and other features of Newark. Such material was found to be but scanty in quantity, scattered and fragmentary in nature, and was addressed to adults.

Finally, the library decided to publish a little local material of its own. One of the editors of a local paper, Frank J. Urquhart, of the *Newark Sunday Call*, was asked to write three short stories of Newark's origin and development. These the library issued in pamphlet form, one each winter for three years. They were lent to young people; were given or lent to teachers, either in single copies or in packages of twenty-five, for use as readers; and were sold to the general public at five cents each.

In the three years during which the pamphlets were in course of publication, interest in Newark study increased steadily in the schools. Instructions began to appear in the courses of study in history, geography, civics, and the like, to make use of Newark material in connection with these subjects. A constantly increasing stream of children came to the Newark library in search of data, and information was sought for by the library in newspapers, books, city reports, and other sources. Short accounts, in multigraphed form, were compiled of Newark's streets, parks, trees, water supply, sewage, health department, fire department, police department, schools, and other aspects of the civic life. These "Newark Study" stories were usually from 500 to 1,200 words long and were circulated freely in the schools. So far as Mr. Dana was able to discover from extensive inquiry, Newark was the first city to do this sort of thing.

Each year on Newark Day, May 17, a modest exhibit of all kinds of prints and pictures about Newark was held in the library, and was annually visited by thousands of children.

The plan of giving Newark's young people a better idea of the community in which they lived met with the hearty approval of the school authorities and of the local Chamber of Commerce. The former asked Mr. Urquhart to revise his sketches, cast them into the form of a continuous narrative, and publish them as a book, guaranteeing the purchase of 2,500 copies (later an equal number more were purchased). Mr. Urquhart did this, in most readable and attractive form [*A Short History of Newark*, 1909]. A little later the Board of Education ordered made for school use a hundred large maps of the city, filled with adequate material that could readily be used for civic training. Meanwhile, a small map was made and distributed in pads of 100 for desk use. The

[8] Herzberg, Max J., "The Book of Newark." *Educational Method*, 13:355-361 (April, 1934).

course of study was further revised to make Newark study a more integral part of the work, and an assistant superintendent of schools, J. Wilmer Kennedy, working in close conjunction with the library and making constant use of its mimeographed material, prepared forty leaflets, from one to eight pages each, as a systematic course in municipal civics.

To this valuable study material there were added, under Mr. Herzberg's supervision, *The Book of Newark* and *A Guide to Newark*, dealing with historical, geographical, and civic features of the city, and prepared by elementary school pupils with the assistance of their teachers.

Another excellent example of a coöperative unit of work making use of local resources is that which was carried on over a period of several months by the pupils of Grades 4, 5, and 6 in Lynn, Massachusetts, under the direction of the supervisor, Miss Helen J. Piper, and the art director, Miss Mabel A. French. This project resulted in the publication in 1931 of a 255-page book entitled *History Stories of Lynn*, which is now used as a local history text in the intermediate grades of that city.

Other illustrations of locally prepared material, previously mentioned in this chapter, are the mimeographed source materials prepared for the Ann Arbor schools by local experts, and the mimeographed accounts of the Indians in the early days of her county, prepared by Miss Julia Weber to fit the reading abilities of her pupils.

Reference material in more condensed form is illustrated by "Stamford Long Ago," a mimeographed bulletin prepared by Anna A. Condon, principal of the Waterside School, Stamford, Connecticut.

This bulletin is in ten sections: The Legend of Laddin's Rock, Indian Life in Stamford Long Ago, Early Settlements (1640-42), How the Settlers Adjusted Themselves to Their New Environment, The Religious Life of the Early Settler, How the Settlers Governed Themselves, Schools in Stamford Long Ago, Some of Stamford's Historic Landmarks, Some of Stamford's Historic Men, Bibliography for Teachers and Pupils.

Each topic is developed in outline form, with significant or important items suggested, inaccessible information assembled, and references "to available bibliography listed," and with some "suggested activities."

Sometimes a group of teachers coöperate in compiling and organizing necessary information. An excellent illustration of this

has been reported by Miss Ann Holdford, from the schools of Wake County, North Carolina.

In the fourth grade of this county a study was commonly made of the geology of the county, but no concise account was available for the use of teachers and pupils. The fourth grade teachers undertook the task of providing this need, and by coöperative work, with guidance or assistance from their supervisor and from instructors of the state college and university, prepared a 29-page typed bulletin, available for the use of all the teachers concerned, covering the following topics: Geologic History of the County, Rocks of the County, Minerals of the County, How to Identify Minerals, Scale of Hardness, and specific description of thirty local minerals. The accounts not only gave the general facts with respect to each topic, but specifically named the locations in the county where concrete illustrations were to be found, e.g.:

"During this time, along the western edge of Wake County a large block of the earth sank. It formed a sort of inland sea, extending from the South Carolina line northeastward to Oxford. . . . The Atlantic Ocean came inland to Wake County. We find deposits of beach sands and gravels all over the southeastern part of the County. The place where Raleigh now stands was probably a promontory overlooking the Atlantic Ocean."

"Diabase . . . occurs one mile northeast of Rolesville in a ledge 100 feet wide. It also occurs in the extreme west and southwest part of the County, cutting through the red colored rocks. This rock is sometimes known as 'trap rock.' It is used principally as crushed stone for railroad ballast and for highway construction, especially in the tar covered roads."

Equipment for Using Natural Science Resources of Community

The equipment which is absolutely essential for realization of the educational potentialities of the local environment is surprisingly small. It differs, moreover, with the resources to be utilized and with the advancement and capacities of the children. The following helpful suggestions from a handbook[6] prepared by the teachers of Raleigh, North Carolina, under the supervision of Miss Mildred English, indicate some of the materials, purchased or home-made, which are needed for various specific purposes.

In making insect cages, glass jars with perforated lids will serve every purpose. A little soil put in the jar and kept moist will furnish an anchorage for the needed twigs and give a natural habitat for many insects.

[6] From *Adventuring in the Field of Elementary Science.* Third Yearbook, Public Schools, Raleigh, North Carolina.

Screened boxes which have been partially filled with soil, rocks and damp moss, make a desirable cage for toads, lizards or insects, and also a suitable place for keeping cocoons during the winter months. Doors in the sides of the box are needed so that interior changes may be made without removing the animals.

Cigar boxes with moth balls securely fastened to the inside may be used satisfactorily in which to mount moths, butterflies, and other insects. Children may make more expensive insect mounts by having boxes inlaid with cork sheets and providing glass covers. Insect pins may be purchased from any biological supply house.

Simply constructed nets may be made by fastening a circular frame of stiff wire to one end of a broom handle and securing a sack of thin material to the frame. Directions for making this are given in detail in Lutz: *Field Book of Insects.*[7] Dip nets may be made in a similar way.

Killing bottles containing potassium cyanide should not be put in the hands of children. A non-poisonous killing bottle may be purchased from a biological supply house.

Insect spreaders may be made with little expenditure of labor or money. An illustration is found in Lutz: *Field Book of Insects.*

In flower study the most satisfactory equipment is provided by nature—the great outdoors. If children desire to make collections, transplanting the wild flowers in boxes and school gardens furnishes the next best equipment. If a mounted collection is desired, sheets of blotting paper and heavy weights are necessary for pressing the flowers, and mounting paper and gummed paper to hold flowers in place. This same equipment may be used for pressing and mounting ferns, leaves, and grasses.

Sterno and sterno stove, matches, half-pint bottle with rubber stopper and glass tube, saucer, drinking glass, and varnish may be used in the experiments to show air pressure.

Magnets, needles, string, and pieces of metal are needed in studying magnetism.

Telegraph key board, batteries, and copper wire may be used in a unit on communication.

Carbon paper, oil paints, lamp filled with paraffin oil, wick, lard, and matches may be used in making leaf prints.

Boxes, planks, and tools with which to make shelves will be needed in several activities.

Rocks, sand, and cement will be needed in building aquariums.

Bird baths, bird houses, and feeding shelves may be made from cement and small pieces of board.

The equipment for tree study will depend on the purpose of the work. If collections of leaves are being made, blotting paper and weights for pressing will be needed, also paper for mounting. If collections of seeds are to be made, small boxes or large-mouthed bottles will be needed. If collections of wood or bark are to be made, heavy cardboard and glue to fasten specimens to the board should be provided.

If collections of shells or rocks are to be made, shallow boxes divided

[7] Lutz, *Field Book of Insects.* Putnam, 1929.

into compartments into which different specimens may be placed, are desirable.

Large-mouthed bottles are desirable for keeping different kinds of soil.

Cases or shelves should be provided for the purpose of keeping old birds' nests, wasps' nests, dirt-daubers' nests, insect galls and other interesting material that may be collected.

Hand lens, compass, and field glasses are desirable but not essential. The simple equipment which the child can provide himself is the most desirable.

A list of materials and equipment actually used during one year in the combined classrooms of the twenty-two teachers[8] of grades one to seven, who compiled it, is given below, not as representing standard provision, but as indicative of the range of resources and the equipment procured because it was found useful in a group of schools with an active science interest and a well-organized program, but with limited financial means.

For Bird Study: feeding shelves, bird houses, bird bath, bird cage, bird chart; "map of a bird"; mounted birds, bird wings, feet, and feathers; nests; a chicken hatched in the room; living birds—canary, hawk, owl.

For Study of Water Life and of Reptiles: aquarium, fishbowl; rubber hose for syphon; dip nets; large zinc tub; glass jars and large, wide-mouthed bottles; alcohol for preservative; invertebrate animals, shells and sea plants—mussel, conch, and conch shell, scallop, oyster, and oyster shell, coral, clam, sea horse, sponge, crabs and crab shells, worms, crayfish, water and land snails, sponges, sea fan, sea weed; fish—perch, goldfish; batrachians and reptiles—frogs, toads, frog and toad eggs, tadpoles, salamander; alligator, gila monster, land and water turtles and terrapins; snakes, lizards.

For Study of Insects and Spiders: old picture frames and small boxes for mounting butterflies, frames for stretching butterflies, insect nets, insect cages; cocoons, caterpillars, moths, butterflies, leaf galls; hornets' nest, mud dauber's nest; grasshoppers; bugs; boll weevil and other bettles; bees, honeycomb found in the woods.

For Plant Study: flowerpots, holders for flower arrangement; garden tools; herbarium; samples of different woods; leaves, fresh and pressed, green and in autumn colors; tree buds, tree flowers and fruits, pine cones, tree barks, petrified wood, red-wood burl from California; ink balls, diseased twigs; wood pulp; seeds; wild flowers (pressed), wild flower garden, wild flowers around aquarium; ferns, moss, hanging moss from South Carolina; evergreens; cultivated plants—wheat products, cotton products, corn products; flowers in window box, vegetable and flower garden, tulips planted; tobacco, grains, mold, nuts, water plants—algae, duck weed, parrot's feather, umbrella plant, cat-tails.

For Study of Mammals: animal cages; mounted dog head, stuffed squirrel, stuffed opossum, dog's skull, goat's skull, cow's skull, cow's

[8] Of Wake County, North Carolina.

horn, deer foot; living animals—house rats, white rats, tame and wild rabbits, opossum, dog, tree and flying squirrels, kitten, Mexican hairless dog.

For Study of Rocks, Minerals, and Soils: rocks from different sections of the United States; samples of marble from different companies; rock crystals, petrified wood, soapstone, mica, carborundum slate; soils from different states; soil with gold in it; glass; Indian arrowheads.

For Physical Science and Astronomy: thermograph, barometer, thermometer, compass, electric battery, bell, telephone, radio, prism, magnet, calendar, globe and maps, charts, monthly star map, weather vane, weather map.

General: cabinet or shelves for material, beaver board or celotex for mounting, scales, microscope, cement, first aid cabinet, notebooks, magazines, pamphlets, newspapers, bibliographies, booklets and anthologies worked out by groups of prior years, pictures and post cards, bulletin boards, thumb tacks and pins, buckets, cans, sterno, electric hot plate.

The illustrations of materials of education afforded by various environments have been so diverse in nature and so unequal in importance that it is particularly necessary to summarize the most significant considerations. First and foremost, there can be no question that the community of which the child is a member and the natural environment in which he lives afford extensive educational materials, and that in the first-hand experiences thus provided all genuine learning must be rooted. What these basal experiences are will be to some extent peculiar in every situation, but a large core of common materials unquestionably exists. Studies made in one situation have much value to others, but each school and indeed each teacher has a definite responsibility for discovering the potentialities of its particular environment.

These potential materials are of two large types—experiences with people and with social living, and experiences with the natural environment, animate and inanimate. The proportion of these two types varies markedly between city and country, so that different types of supplementation need to be made, especially in the field of nature for city children. This supplementation is a particular concern of museums and parks, which are to be thought of by city teachers as an important part of their natural environment. The Educational Experiment Station of Ann Arbor is a very unusual case of further supplementation than parks or museums can supply.

It cannot be too strongly pointed out, however, that the environmental facts are not ends in themselves, but means to ends, and that quite different means may serve the same end in different situations. The understanding of scientific facts and principles, the stimulation of intellectual curiosity, the development of interests and hobbies which the science materials listed by the twenty-two Wake County teachers afforded, might be equally well achieved in twenty-two other classrooms with a quite different bill of particulars. The problem of the school is not to set up some standard set of experiences which shall be had by every child, but to find, each in and for its own situation, those experiences and those materials which best serve the ends of education. Some may pick up by the wayside what others must buy; some may find in commonplace living what others must seek in museums or through trips, or perhaps be unable to reach at all excepting through representation in motion picture, photograph, or verbal account. No environment is so poor as to afford no materials of value, and none so rich as to require no supplementation.

There must not be overlooked in any environment the potential lay teachers—fathers, mothers, grandmothers, janitors, governmental officials, scientists, lawyers, or what not—who can and usually are glad to help the children by sharing some knowledge or skill they in particular have. Examples of these have been numerous in the preceding accounts.

Finally, there is a field which needs more extensive representation than this chapter has been able to offer—that of actual responsible participation by children in many aspects of social living. A few of these have been illustrated, especially in the reports from Ann Arbor, but in the main the materials reported, valuable though they are, give experiences in studying about rather than in learning to live in a twentieth century world through genuine experiences on the learner's level of participation.

CHAPTER III

EXTENSION OF THE IMMEDIATE ENVIRONMENT THROUGH THE EDUCATIONAL SERVICE OF BOOKS

HELEN HAY HEYL AND ANNA CLARK KENNEDY

If children are to make adequate use of books in modern life, the school must offer a wide and varied collection of the best literature fitted to the needs and interests of the particular child and integrated with the group's curriculum interests or with school and community activities which are engaging the group's attention at a particular moment. To know the available materials and to be able to choose wisely from the abundance of good literature for children, the superintendents, supervisors, and teachers must use many book selection guides. To make the best use of the materials, once chosen, supervisors and teachers must know how to evaluate the possible uses of the book in terms of its curriculum connections and the child's interests and reading ability.

This chapter, therefore, contains suggestions for the selection and care of books and other printed material, and attempts to describe the varied types of books which are interesting to children and useful for many different purposes. Two main topics are treated:

1. Books for superintendents, supervisors, and principals which give information about children's books, aid in their selection, and guide teachers in their organization and care.
2. Books for children, representing a varied range of types and interests.

BOOK SELECTION AIDS

Book and periodical selection aids. Because many books for boys and girls and many books for teachers are needed for every

school's work, we present here a few types of the technical tools, used by all librarians, which are of great value to superintendents, supervisors, and teachers in selecting and using books and in recommending printed materials. It is suggested that some of these should be acquired as part of the schoolman's professional book collection and that the supervisor or director should interest teachers and principals in these sources of information which may be available in the administrative office as well as in many public libraries. Rural teachers especially should know that such sources are available in the superintendent's or supervisor's office, in the public library, or in some nearby larger school. Several types of such technical aids are given here as illustrations. Of these, the *Children's Catalog* is most useful for elementary schools, the *Standard Catalog for High School Libraries* for secondary schools, and *Subscription Books Bulletin* for both adult and juvenile works of reference and sets of books sold on the subscription basis.

BEUST, NORA (Comp.), *A Graded List of Books for Children*. American Library Association, 1930. $2.00.

This annotated list is based upon a similar list noted in Booklist 19:5, O 22, and ALA catalog, 1926, expanded to include the following new features: a foreword by Joy Elmer Morgan, a shelf of books for a one-room school, and a librarian's shelf. It is arranged alphabetically by author in three lists according to grades (1-3, 4-6, 7-9) with an author, title, and subject index. It includes a list of reference books for grades 1-9, a list of books out of print, and a directory of publishers. Now being revised; the new edition is expected soon.

Children's Catalog. 4th edition. H. W. Wilson Company, 1930 (Supplement, 1934). Service basis. Price to individuals, $4.00.

A list of 4,100 books for children and young people which is sold to schools and libraries on a service basis—a plan by which each school or library pays for a book or a service according to the use which will be derived in that particular situation. For example, in a one-teacher school the number of pupils and teachers to use the *Children's Catalog* is so small as compared with the number who will use it in an elementary school in a large city that the minimum price, $4.00, is charged to the small school, the maximum price, $8.00, is charged to schools of largest size, and a price between these two is charged to schools falling between the two extremes. Annual supplements are furnished each year without extra charge. These are cumulative and result in a new edition every four years. Anyone subscribing for the books between

the issuance of new editions is furnished back supplements. The list is arranged in dictionary order so that information is found under the author's name, under the title, and under the subject. The subject listing is particularly valuable because often it is important to know what books on a given subject are to be found for the children of a given grade.

The Right Book for the Right Child. A Graded Buying List of Children's Books. John Day, 1933. 357 p. $2.50.

The books in this volume have been selected and annotated by a subcommittee of the committee on library work with children of the American Library Association, under the chairmanship of Mary S. Winkinson, director of work with children, Enoch Pratt Free Library, Baltimore, Maryland. The books have been graded on the basis of reading difficulty by the research department of the Winnetka public schools. Designed to help parent, teacher, and librarian select books suitable for the individual child from pre-school through junior high school age, it is a valuable tool, especially in rural and underprivileged communities where easy reading material which is interesting and worth while is much needed. There is some discussion among children's librarians as to the unusual grading of particular titles.

The Standard Catalog for High School Libraries. Second edition. H. W. Wilson Company, 1932. Service basis. $4.00 minimum, $16.00 maximum (see note on *Children's Catalog*).

The 3,300 titles recommended and tested by school librarians for junior and senior high schools are listed with full bibliographical information and with adequate annotations in class order in the first part of the "High School Catalog." The second part is a dictionary catalog, a list of the same titles entered under author, title, and subject. Lists of pamphlets follow the main lists. Abundant information as to sources for pictures and other illustrative materials is included. Comparisons of books listed with other titles in the same fields presented in the notes, together with these other features, make the list of first importance as an aid to acquiring a practical and effective book collection. Its value in organizing and cataloging a library and its use as a reference tool also make the High School Catalog invaluable for secondary schools and for those who are working with young people.

Subscription Books Bulletin. Quarterly. American Library Association. $1.00 per year.

A quarterly review of encyclopedias and other reference tools which are sold on the subscription basis. The reviews are written by experienced reference librarians, who show the strong and weak points of each book or set, compare each with other publications in the field, and make a definite statement as to whether it is recommended or not recommended for schools and for libraries. Through these non-partisan reviews it is possible to have more nearly adequate information regard-

ing the history, the authority, the accuracy, and the merits of reference books than can be acquired through talking to salesmen or by casual examination.

WOODRING, MAXIE N., and others, *The Enriched Teaching of English.* Second edition. Bureau of Publications, Teachers College, Columbia University, 1934. $2.75.

An invaluable aid to English teachers, school librarians, and their associates in that classified lists of books, pictures, and supplies as well as inexpensive and free materials are presented with full and exact information as to source and price. Other titles in the "Enriched Teaching" series—*The Enriched Teaching of Latin, The Enriched Teaching of Mathematics, The Enriched Teaching of Physical Education,* and *The Enriched Teaching of Science*—perform similar services for their particular subject fields.

INFORMATION ABOUT CHILDREN'S LITERATURE

Because of the varied types and the great number of children's books today, with the consequent need of careful selection, discriminating between those which are excellent in quality and interest and those which are mediocre or inferior, teachers and others who are working with children must be familiar with the broad field of children's books and with the principles which may well govern the selection of specific books for the use and enjoyment of boys and girls. More and more attention is being given to the activities and interests of children themselves as important factors in their appreciation and enjoyment of books and as factors which must be taken into consideration in choosing books for children. The titles described below have been selected from a number of helpful books which discuss the subject of children's literature and the problems of selecting books for children of various ages.

DALGLIESH, ALICE, *First Experiences with Literature.* Scribner, 1932. 162 p. $1.25. (Series on childhood education.)

An interesting discussion of literature for modern children from two to eight years of age. In offering suggestions for teacher or parent in the selection of children's books, Miss Dalgliesh keeps particularly in mind the actual interests of the children themselves. Attention is given to the various kinds of literature for boys and girls, including references to specific authors and illustrators, both the well-known favorites and the more recent contributors of children's books. Miss Dalgliesh considers picture books and picture-story books, poetry, stories of everyday ex-

perience, nature and animal stories, informational books, holiday stories, literature from other lands, Bible stories, fairy tales, and tales of laughter. One chapter is devoted to the subject of telling stories to young children. A briefly annotated bibliography of books which children enjoy and which are particularly suitable for school and home use, with suggestive age groupings and a list of reference books on children's literature for the teacher or student, are helpful features of the book.

GARDNER, EVELYN ELIZABETH, and RAMSEY, ELOISE. *A Handbook of Children's Literature, Methods and Materials.* Scott, Foresman, 1927. 354 p. $2.00.

A handbook intended to serve as an aid to teachers, librarians, and others in an intelligent selection and interpretation of literature for children of the elementary school age. While much of the discussion applies to literature for older children, there are also useful and interesting chapters about books for younger children. According to the authors' preface, "the specific purposes of the book are three: (1) to develop the approach to children's literature through consideration of children's interests and activities; (2) to direct attention to a considerable body of good literature simple enough to be understood and enjoyed by children; (3) to suggest some methods of presenting literature that will give enjoyment to children and enlarge for them the experience of appreciation." An historical summary of children's literature and a suggested course of study designed to offer aid to the enrichment of literature which may be prescribed in various grades are also parts of the book. Suggestions for additional readings dealing with topics under discussion are given at the end of each chapter. An 88-page bibliography lists selected books for children in the fields of folk literature, poetry, art, music, history, biography, geography and travel, adventure, out-door and mystery stories, nature books, prehistoric times, practical books in applied science, vocations, etc., and picture books.

BECKER, MAY LAMBERTON, *Adventures in Reading.* Stokes, 1927. 248 p. $2.00.

A chatty book addressed to high school boys and girls, showing ways in which they may gain enjoyment from their reading. In a personal, informal style Mrs. Becker introduces many specific books and suggests principles which may govern the selection of books in various fields. Among the kinds of literature which she discusses are: novels, history, biography, poetry, travel, plays, science, and essays. Each chapter is followed by a list of the books referred to in that chapter.

A list of several other recent books about children's books follows:

MAHONY, BERTHA E., and WHITNEY, ELINOR (compilers), *Realms of Gold in Children's Books.* Doubleday, 1929. 796 p. $5.00.

MOORE, ANNIE CARROLL, *Three Owls.* Second book. Contemporary

Criticism of Children's Books. Coward-McCann, 1928. 440 p. $3.00.

MOORE, ANNIE CARROLL, *Three Owls.* Third book. Contemporary Criticism of Children's Books. Coward-McCann, 1931. 462 p. $3.00.

MOORE, ANNIE EGERTON, *Literature Old and New for Children.* Materials for a College Course. Houghton, 1934. 446 p. $1.50.

TERMAN, LEWIS MADISON, and LIMA, MARGARET, *Children's Reading—A Guide for Parents and Teachers.* Second edition. Appleton, 1931. 422 p. $2.50; educ. ed., $2.00.

WEEKES, BLANCHE E., *Literature and the Child.* Silver, Burdett, 1935. 456 p. $2.16.

The following types of periodical and newspaper aids are also helpful for book reviews on current children's books:

The Horn Book Magazine. Women's Educational and Industrial Union, 270 Boylston St., Boston, Mass. $2.50 per year.

The Booklist—A Guide to New Books (section on children's books). American Library Association. $2.50 per year.

The New York Herald-Tribune, Sunday supplement, entitled "Book Section—Books for Young People," edited by May Lamberton Becker.

The New York Times Book Review, Sunday supplement, section for boys and girls edited by Anne T. Eaton. $1.50 per year for weekly issue.

Excellent lists of reading for children of high school age have been compiled by committees of the National Council of Teachers of English:

Leisure Reading (for grades 7-9) and *Home Reading* (for grades 9-12). National Council of Teachers of English, 211 West 68th St., Chicago, Ill. $0.20 each; $1.80 a dozen.

THE CARE AND ADMINISTRATION OF BOOKS (THE SCHOOL LIBRARY)

Whether the school should maintain its library as a separate department of the school, working in close harmony with teachers and pupils of all classes, or whether classroom libraries are to be preferred in both elementary and secondary schools, or in either, is a controversial issue which this Yearbook cannot attempt to resolve. Probably the better practice lies somewhere between the two extremes. In the years immediately ahead we shall no doubt see high schools perfecting the services of their central libraries while developing class libraries in each laboratory or

interest center, and elementary schools perfecting the classroom libraries and also developing a wider use of the central elementary school library with a trained school librarian in charge to assist teachers and pupils, to give instruction in the use of the library, and to keep the class libraries as well as the central book collection alive and growing.

In the school library where the books have been classified, marked with class numbers, shelved with appropriate shelf and case labels, and listed by author, title, and subject in the dictionary catalog, with the book number on each card to lead from the catalog to the book, the value of the book collection is many times increased and the use of the library is efficient as well as simple. Important among the tools which school librarians use for this work are the *Dewey Decimal Classification Table*, Sears' *List of Subject Headings for Small Libraries*, Aker's *Simple Library Cataloging*, Fargo's *Library in the School*, Wilson's *School Library Management*, and *The Standard Catalog for High School Libraries*, which are listed later in this chapter (see pages 57–58).

It is usual for school librarians and teachers to plan so that all pupils are introduced to the library as early as possible in their school experience. After the sight-seeing tour in which the general plan of the library rooms, the arrangement of books on the shelves, the collections of special interest, magazine collection, pamphlet files, and picture and music files are observed and the simple regulations for the use of the library are discussed, the teacher or the librarian plans that a period or two will be provided for presenting the idea of classification and for learning to know the card catalog through brief explanations, printed aids, and problems demanding the use of these tools.

For classrooms in smaller schools in which no trained librarian is employed, and for rural schools for which no library service is provided, the outlines which follow are presented as an aid to supervisors who must help teachers and their pupils to organize and to administer the small book collections. While in these directions technical library processes are omitted, no step is suggested which is contrary to good library practice. In case a

librarian later becomes a member of the school's staff, or in case library service is later provided for the rural schools by a county or district library system, the work of classifying, shelf-listing, cataloging, etc., may be based on the simple organization already completed without being handicapped in any respect. In the meantime teachers and children will be enabled to use the books with greater success and satisfaction because these simple, common-sense plans have been followed.

If it is possible, the boys and girls will assist the teacher in looking at the books to decide what they are about, and under what heading they should be placed. They may also discuss the reasons for shelving the books according to a specified plan and make the shelf labels. By so doing they will be acquiring their understanding of library organization with the activity itself instead of through a formal lesson. And, when the pupils charge books, record circulation, make written note of their book needs for the purpose of borrowing from a larger library or for future buying, habits in the proper care and use of books and appreciation of good library behavior are being developed and carried out in the most practical way.

The outlines that follow contain directions for organizing and administering the book collection, a list of the important records which should be kept, a suggestive list of subject headings, and a list of needed library supplies. Although the outlines may seem rather long and involved, the steps in execution are very simple and may be taken one at a time. The library supplies mentioned in the outlines will be found in the list of supplies, with addresses of library supply houses from which they may be purchased.

Directions for Organizing and Administering the Book Collection in Classrooms and in Rural Schools of the Smaller Type

1. Sort books as to value.
   a. Useful.
   b. Not useful.

   To determine use consider (1) the interests and reading ability of the children in the school or class, (2) curricular needs, (3) the subject matter, authority, treatment, copyright date, and physical make-up of each book.

2. Sort useful books as to condition.
   a. Good condition.
   b. Suitable for mending (to be set aside for mending when the time permits).
   c. Suitable for re-binding (to be set aside for sending away to a bindery).
   d. Worn or soiled.

3. Discard books.
   a. Set aside for discarding.
      (1) The books which are not useful.
      (2) The books worn and soiled beyond repair.
   b. Make entry in accession record (and other records) to indicate that these books are being discarded.
   c. Decide what to do with discards. For example, some may be useful in a public or reference library; others may be taken apart for separate pictures, poems, or stories.

4. Prepare books for shelves.
   a. Open new books.
   b. Stamp, write, or insert the marks of ownership inside the front cover.
   c. Accession new books and find out whether the accession record is complete and accurate.
      (1) Enter author's name, title, publisher, date, and price of each book in the accession record (see pp. 53-54, 57).
      (2) Write the accession number in the book at the foot of the first right-hand page following the title page.
   d. Classify each book by subject (a list of subject headings which may be helpful as a guide is given on pages 55-56).
      (1) Write the subject heading in the book at the top of the first right-hand page following the title page and inside the back cover at the upper right corner.
      (2) Teach pupils to match the subject heading written inside the back cover of a book with the subject heading on the shelf label.
   e. Provide a charging system by
      (1) Pasting "date due" slips on end sheets opposite back covers (see pp. 53, 57).
      (2) Writing book cards, either deposit station cards or individual book cards (see pp. 53, 57).
      Author's name, title, accession number, and subject heading should be included.
      If individual book cards are used, paste book pockets inside of back covers of books.
   f. Wash soiled books, remove labels, etc.
   g. Shellac book covers.

5. Arrange books on shelves.
   a. Arrange books.
      (1) By subject.
      (2) Under subject arrange alphabetically by authors' names (books of biography form an exception in that they are arranged according to the person written about rather than by author).
   b. Shelve books as arranged.
      (1) Use shelf labels. Shelf labels are narrow strips of lightweight cardboard on which the subject heading is written or printed. They are attached to the shelves with thumb tacks or by means of shelf label holders and are used as guides in finding books as well as aids in shelving books.
      (2) Use book ends to keep books standing straight, with backs plumb with the edges of the shelves.

6. Consider book needs.
   a. Keep on cards a list of needs for particular books or for material which the collection does not supply.
      (1) Use information gained from sorting, discarding, and classifying books to make up this "want list."
      (2) Use information gained from noting needs shown when working with children and books.
      (3) Consult these notes regarding important, practical, and attractive books seen.
   b. Plan so that in the book collection there will be titles for the ages, sexes, and different degrees of reading ability found in the school and so that there will be that variety of subject matter, point-of-view, and treatment which the pupils' present and presented interests demand.
   c. Consult recognized book selection aids such as *The Children's Catalog, The Right Book for the Right Child,* Beust's *Graded List of Books for Children, Subscription Books Bulletin,* the book lists in courses of study, and such lists as those published by the National Council of Teachers of English and the American Library Association.
   d. Weigh relative values and uses of
      (1) Individual titles.
      (2) Reference works.
      (3) Periodicals.

7. Administration.
   a. Ordering books.
      (1) Consult "want cards" before making up order.
      (2) List books selected for purchase and send list for approval to superintendent, supervisor, or other proper authority who may have this responsibility in your state.
      (3) When the list is returned with approval for purchase, make a duplicate list and order the approved books.

(4) When books are received, check them with the duplicate list and with the bill.

b. Preparing books for shelves (see 4 above).

c. Borrowing books. Plan to obtain books from
   (1) Local public library.
   (2) Nearby schools and school libraries.
   (3) State library, State Library Commission, or the library extension organization in your state (see Appendix, pp. 214-215).

d. Lending books.
   (1) Advertise and display books so that children will wish to read.
   (2) When charging to children, write (1) borrower's name and date due on deposit station card or on book card, and (2) date due on date due slip.
   (3) Keep a circulation record and note which books are most popular with children, also which children are reading.
   (4) When book is returned, discharge it.
   (5) Return it to proper place on shelf.

e. Housekeeping to keep library or library corner clean, orderly, and attractively arranged.

8. Plan and develop a reading center. The essential furniture consists of:
   a. Shelves.
   b. A reading table.
   c. Chairs.
   d. A bulletin board.
   e. A vertical file case, a box or some other provision for filing pamphlets and pictures.

9. Provide opportunity for
   a. Reference lessons when needed.
   b. Reading guidance and stimulation.
   c. Reading for information.
   d. Reading for recreation.

Important Records Which Should Be Kept for Classroom Libraries and for Small Rural Schools

1. Accession book.

An accession list is a consecutively numbered list of the books in a library arranged and dated in the order in which they are received. Withdrawals (books lost or discarded) are so indicated that it is possible to determine exactly how many books there are in the book collection by subtracting the total number of books withdrawn from the last accession number. The accession record is a permanent basic business record, a bookkeeping record. It shows the growth and history of the book collection. Obviously a chronological record can not be arranged by subject, author, title, or grade. Hence, it can

not take the place of a shelf list, an author's list, a reading list, or a dictionary catalog. It is, however, an essential school library record.

2. Charging system.

A charging system is provided for recording the loan of books from the library and the return of books to the library. It is important to the school for the purpose of keeping control of its property, and to the pupils for being credited with the return of books.

3. Circulation record.

The circulation record indicates the number of books borrowed daily with weekly, monthly, and annual summaries. In a small school or classroom the total number of books loaned is recorded. In libraries in larger schools, and in public libraries, a record is made of the circulation of books of each class or subject as fiction, biography, history, etc. It is an important record in that it indicates in part how the library is functioning, how well the book collection is being used, and how interest in reading is growing.

In schools having a separate library room or reading room, an attendance record is important for showing the "in school" use of books.

4. Shelf list.

A shelf list is a card list of the books in the library with the cards arranged as the books are arranged on the shelves. The shelf list shows how many and what books there are on each subject. It can be used in shelving or reshelving the books to be sure that the book collection is in proper order. In taking an inventory the shelf list and the accession record are needed.

For the library organization suggested in this outline, the items of information given on a shelf list card are subject heading, author's name, title, accession number. In libraries classified according to the Dewey Decimal Classification, the class number is used on the shelf list card instead of the subject heading.

5. Author list.

An author list is a list of the books in the library arranged alphabetically by authors' names. The information given on an author card consists of author's name, title, publisher, date of publication, followed by last copyright date, and, if needed, the number of volumes or the name of the series. The subject heading is written at the lower left-hand corner of the card so as to show where the book is shelved. Since the most accurate method of referring to a book is by author and title, and since alphabetic arrangement is efficient and simple, an author alphabetic list is very practical. It is the means of answering questions such as "What books by Howard Pyle are

in this library?" "Has the school a copy of Stevenson's *Treasure Island*?"

6. Dictionary catalog.

A dictionary catalog is an author, title, and subject index of the books in the library. In a dictionary catalog, cards beginning with authors' names, cards beginning with titles, and cards beginning with subject headings are arranged in one alphabet.

A dictionary catalog, a most useful tool, is desirable whenever it can be properly made and continued. Yet this exact and rather difficult work should not be undertaken in the smaller schools because only persons who have been trained to catalog can do it efficiently. Moreover, because it is possible for the teacher and the children to know the smaller number of books very thoroughly, the relatively small book collection does not absolutely require a dictionary catalog as does the larger book collection.

It is important, however, for the teacher (and for pupils above the fourth or fifth grade) to use the dictionary catalog in public libraries and in high school libraries, and to use the first part of the *Children's Catalog*, which is a printed dictionary catalog.

Subject headings. In classroom libraries and in small rural elementary schools, it is usual to find books on the subjects listed below; hence these subject headings have often been used for classifying, shelf listing, and shelving books. They are given here as suggestions from which other subject lists may be developed in keeping with the contents of a particular book collection. The shelf labels should contain these or similar subject headings.

Stories
- For Older Boys and Girls
- For Younger Boys and Girls
- Easy Books
- Picture Books
- Readers
- Selections
- Myths and Legends
- Story Telling

Poetry
Plays
Bible
Art
Music
Biography (interesting people)
Mathematics
Engineering
Aviation
Farming
Homemaking
Industries and Inventions
Handicraft
Health
Manners
Sports, Games, and Parties
Guidance
Education
Reference
Social Sciences
- Citizenship
- Government
- Geography
  - Africa
  - Asia
  - Australia
  - Europe, etc.

- History
  - Primitive Life
  - Indians
  - Europe
  - America
  - World Affairs
- Science
  - Animals
  - Birds
- Science (*continued*)
  - Fish
  - Flowers
  - Insects
  - Nature Study
  - Astronomy
  - Biology
  - Physics
  - Chemistry

The headings indented under the main subjects—stories, social sciences, geography, history, and science—will be used only when the number of books on a subject or the number of books on a particular sub-division is rather large.[1]

It is sometimes desirable to arrange stories according to the subject interest to aid in curriculum correlation. This may be done by separating stories into such groups as:

- Animal stories
- Adventure stories
- Bird stories
- Fairy tales
- Geographical stories
- Historical stories
- Indian stories
- Mystery stories
- School stories
- Sport stories

In the case of geographical and historical stories, it may be better to group them by subject interest followed by the sub-head stories, as:

- China—stories
- England—stories
- Holland—stories
- Middle Ages—stories
- American Life—stories
- Rome—stories

Supplies needed for organizing small book collections for classroom or for one-teacher schools. The cost of these supplies is approximately $5.00-$6.00. They may be obtained at Demco Library Supplies, Madison, Wisconsin; Gaylord Brothers, Syracuse, New York; Holliston Mills, 40 West 25th Street, New York City; H. R. Huntting Company, Springfield, Massachusetts; Library Bureau of Remington Rand, Boston, Chicago, Los Angeles, and New York City. Several items can be purchased from local dealers, and shelf labels can be made by the teacher and children.

[1] A good example of a book list prepared for local use is *Books for the Elementary School Library*, by I. Jewell Simpson and M. Theresa Widefeld. State Department of Education, Baltimore, Maryland.

1. Simplified accession book—500 lines, pressboard covers.
2. Rubber stamp (with name of school) and stamp pad.
3. Charging system materials.
   a. Date due slips (200 or 300, depending on the number of books).
   b. Deposit station cards (200 or 300) for charging books; 2 manila covers and 2 rings for holding cards together.
   c. Book cards with "date due" column (200 or 300).
   Book pockets (200 or 300).
   Charging tray.
   Date due guide cards for charging tray.
4. Note book for circulation record.
5. Shellacking material.
   a. Shellac brush and denatured alcohol for cleaning brush.
   b. ½ pint of white shellac and ½ pint denatured alcohol, or ½ pint book lacquer and ½ pint denatured alcohol or thinner, or 1 pint of Barco (requires no thinning).
6. Steel book supports. (Order at least one dozen supports. If book collection is large, order in addition to the first dozen, one support for each shelf of book case.)
7. Shelf labels.
8. Catalog cards.
   a. Provide 3 by 5 cards, if shelf list and author list or dictionary catalog are to be made.
   b. Provide shelf list cards (set of 10) and A-Z catalog guides (set of 25) if shelf list and author list are to be made.
   c. Box or case for shelf list and for author list or catalog list, if they are made.
9. Pamphlet boxes. Pasteboard boxes (not folding) which will hold booklets, pamphlets, periodicals, etc., are useful because they keep such materials clean and in good order and because they can be labeled and arranged so that they will stand on the shelves like books.
10. Mending materials.
    a. 1 or 2 paste brushes.
    b. Paste.
    c. 1 package of Japanese mending tissue (250) strips.
11. Miscellaneous supplies.
    a. Blotters.
    b. Cheesecloth.
    c. Soap.
    d. Thumb tacks.

Books which are useful in helping supervisors and teachers to organize and use the school book collections properly are:

Akers, Susan G., *Simple Library Cataloging*. 2nd ed. American Library Association, 1933. $1.50.

Dewey, Melvil, *Decimal Classification*. 13th ed. H. W. Wilson Co., 1932. $6.50.

Dewey, Melvil, *Abridged Decimal Classification.* 4th ed. Forest Press, 1929. $2.50.
Fargo, L. F., *Library in the School.* 2nd ed. American Library Association, 1930. $3.00.
Sears, M. E., *List of Subject Headings for Small Libraries.* 3rd ed. H. W. Wilson Co. $2.75.
Wilson, Martha, *School Library Management.* 5th ed. H. W. Wilson Co. $1.25.

Books for Children

The following discussion of books for children indicates the many possible types which may be chosen to fit various needs and special classes of children. In each presentation, a brief discussion of the type and its use is followed by one or two annotated titles to serve as illustrations, except in the discussion on textbooks. As far as possible, all illustrative titles have been chosen from modern materials save in a few cases where it seemed better to suggest older and more widely known books.

Reference books for children. One good set of general reference books suited to the needs of teachers and children should be provided even in the smallest school. In larger schools with well-organized libraries these should form a part of the general book collection and pupils may go to the library to do their reference work. In a one- or two-teacher rural school, such a collection of reference materials as the following will meet most needs:

1. One standard school encyclopedia, such as:
   Compton's Pictured Encyclopedia. F. E. Compton and Co. $62.50 in buckram; or *The World Book Encyclopedia.* Quarrie. $68.90 in cloth.

   Until funds are available for the purchase of an encyclopedia, the school may buy a smaller reference work, such as:

   The Lincoln Library of Essential Information. The Frontier Press. 1 vol., buckram $15.50; 2 vols., $19.50.
   New Champlin Encyclopedia for Young Folks: Persons.
   New Champlin Encyclopedia for Young Folks: Places and Events. Holt. Each volume, $5.00.
2. A standard school dictionary, such as:
   New International Dictionary. Merriam. $16.00.
   New Standard Dictionary. Funk and Wagnall. $16.00.

Until funds are available for an unabridged dictionary, some schools may purchase a standard dictionary of the smaller type, such as:

College Standard Dictionary. Funk and Wagnall. $5.00; buckram $6.00.

Thorndike-Century Junior Dictionary. Scott, Foresman, 1935. $1.32.

Webster's Collegiate Dictionary. Merriam. $5.00; buckram $6.00.

The Winston Simplified Dictionary. Advanced edition. Winston, 1926. $2.64.

3. A standard atlas, such as:
   Goode, J. P., *School Atlas.* Rand McNally. $4.00.
4. *World Almanac.* Cloth, $1.00; paper, $0.50.

The school will also wish to supply each classroom with several copies of a simplified graded dictionary, suitable for the age group, to be used by children when taking first steps in learning how to use a dictionary.

Textbooks.[1]

The curriculum will remain static so long as American schools are dependent to the extent which they now are on highly condensed textbooks that aim to cover in a single volume all the materials on a given subject.

The traditional use of the single and highly condensed textbook which aims to cover in a single volume all the materials on a given subject, and the infallibility of the printed page in the minds of the great mass of teachers present real obstacles to the carrying through of a social curriculum based upon the experiences of children. Those who are guiding the development of children must provide them with the opportunity to understand, on appropriate levels, the basic social concepts which form the essential background of our present social institutions and the intricate problems arising out of the confusion of the present decade. Their success in doing this depends to a much greater degree than we have recognized or admitted on the textbooks, library, museum, and instructional materials used as the medium of instruction. We may assume in our discussion groups, in our writing, and in our courses of study that the teacher is teaching children and not subjects, children rather than books. We must

[1] Adapted from an article submitted by Arthur Dondineau, Director of Instruction, Detroit, Michigan.

recognize, however, that in many classrooms instruction is still carried on through the medium of textbooks; in most subjects, by means of a textbook. We may talk of something else, but the fact remains that books are the chief medium of instruction with superior teachers as well as with the mediocre. One way to get away from a single textbook is to use two books—better still, three books, or ten, or a library of books.

The single textbook, however complete, is entirely inadequate to take care of individual differences or to meet the social needs of the time. In the natural and physical sciences, in literature, no single book is sufficiently comprehensive to give the child a basis for understanding life or our social institutions. Neither is it effective in developing the skills. It is incapable of providing for the range of interest of a single child, much less that of a group of thirty children. The single text excludes the richest and most recent thought. It can not do otherwise. The extensive use of a single text produces an intellectual and emotional standardization of the child, while extensive reading rich in experience stimulates initiative, self-expression, and independent thinking. At best, a single textbook presents but one point of view.

If one actually analyzes these conditions, it is not difficult to see how impossible it is to achieve fully at present the goals of the progressive curriculum. Teachers for generations have developed, either of their own choice or of necessity, a technique for teaching with a single book. Once the technique is acquired, it is easy to follow that course. Very often the teacher was taught by the same method herself. At any rate, she is led to believe that the knowledge and the skills which her children are supposed to acquire are hidden within the sacred pages of the volume before her.

Nevertheless, textbooks have been greatly improved, perhaps just because of the demand resulting from this slavish following of them; and wise choosing among the many recent offerings in a particular field can afford a wealth of illustrative material in a simple reference form which is exceedingly useful to children just because it is condensed. The textbook in this sense is still a basic tool. Textbooks, too, are increasingly well graded in vo-

cabulary and do not handicap the young learner by presenting reading difficulties, as do many delightfully written children's books which are rich in informational content and authoritative in background but difficult to read.

The tendency to combine basic information from several closely related fields into a single text, thus offering to the pupil a composite view of subject matter, is a recent trend which can not yet be evaluated. Certainly thus far the textbooks in social studies, for example, leave much to be done by other books, if a full picture of the particular problems discussed is to be viewed by students. Most new undertakings, however, present weaknesses in early stages and the skillful director of education will study materials offered in this form carefully before making recommendations.

The importance of up-to-date, authoritative textbooks and reading books, attractive in appearance and physically clean, has been stressed by schoolmen, hygienists, authors, and publishers. Their writings and speeches have been brought together and published by the Macmillan Company in a pamphlet, "Dirty, Worn-Out, Out-Moded School Books—True Economy or a Menace to Health and Education?" This presents an effective argument for supplying proper and abundant materials of instruction.

Since the yearbook on "The Textbook in American Education"[1] dealt in detail with its place in education and set up standards for textbook selection, it is not necessary here to go into detail on these points. It is well to note, however, that two texts may be equally accurate in content, rich in illustrative material, and fair in the interpretation of controversial issues, and yet one may far outrank the other from the standpoint of its literary merit, vividness of style, and interest to children. Compare, for example, the treatment of subject matter in many of the older histories with the episodic style of the Rugg social science series, or with that delightfully written book, Casner and Gabriel's *Exploring American History*, which is illustrated from the "Chronicles of American Photoplays" and contains lists of activities, music, and suggestive readings, or with Leo Huberman's bril-

[1] National Society for the Study of Education, *Thirtieth Yearbook*, Part II, Chapter XVII. Public School Publishing Company, 1931.

liantly written book for junior high school boys and girls, *We, the People*. That it shall be as "interesting as a story book" becomes increasingly the child's own measure of a good textbook. That it shall also be well indexed and easy to consult is increasingly important as the textbook begins to assume a different place in education.

According to a recent report of the New York State Education Department, there is a marked advance in the use of textbooks as tools in the solution of problems.[1] The change in the function of the text from "a book to be learned" to "a book to be consulted" is one mark of a progressive school; but in all schools, whether traditional or "progressive" in the extreme, the textbook still serves as a major teaching instrument, teachers and schools varying in the degree to which they depend upon it.

For further help in setting up standards for the selection of textbooks, therefore, note the brief bibliography at the conclusion of this section, the bibliographies in the National Society's Yearbook referred to above, and the *Review of Educational Research*, Vol. IV, Chapter III, "Evaluation of . . . textbooks," April, 1934. For those who wish to use simple guides before setting up formal rating scales, the following questions may be useful. All of these will not apply to every textbook; but those that do apply should be answered in the affirmative before the book is chosen.

Guides for Selecting Texts

Scope

1. Is the subject matter accurately presented?
   Is the author an authority in his field?
2. Is the book built upon a consistent plan? (What is the plan?)
3. If the book deals with controversial issues, are both sides presented with a reasonable degree of fairness? (Every author unavoidably writes himself into his textbooks. If a history text is being selected, read, for example, the causes of the Civil War as presented in several different books for point of view; note whether more emphasis is given to the Mayflower Compact or to the first meeting of the Virginia House of Burgesses, which occurred more than a year before

[1] *Trends in Unit Teaching*, A Fourth Report of Cardinal Objectives in Education. The University of the State of New York, Albany, 1934. Published for sale by New York State Association of Elementary Principals, Rollin W. Thompson (President), Roscoe Conklin School, Utica, N. Y.

the coming of the Pilgrims; or read and compare several treatments of the tariff.)

Treatment

4. Has the content literary merit? Is it well written? Worth reading? (All textbooks, even arithmetics, should meet some such standard. If a literary reader, an anthology of verse, or a collection of stories is being considered, examine the table of contents to see which well-known writers are included.)
5. Is the vocabulary scientifically graded for the purpose it is to serve?
6. Is the content arranged with clear headings and sub-headings, so that it can be consulted easily?
7. Is the print clear-cut black on cream paper with a dull, partly glazed finish? (18-point type, Great Primer, should be used for young children.)

Arrangement

8. Are the pictures arranged so that the reading matter presents a unity?
9. Are the illustrations the work of a recognized artist? Are they full of action (alive, not wooden)? Are the colors clear and harmonious in tone (not gaudy)? True to what is depicted (not blue elephants and purple cats)? If illustrated with photographs, maps, charts, graphs, cartoons, etc., are these authentic and accurate in detail?
10. Is there a good table of contents? A good index? A glossary?
11. Is the book covered with durable cloth? Does it open easily and lie flat without cracking? Does the binding seem to be strongly sewed and can you see distinctly a cloth strip inside the board back, which probably indicates a reenforced or resewed binding?
12. Is the format attractive? Will a child's interest in the book be aroused by the front cover? Does it invite him in?
13. For certain types of books, is there a good supply of accessory teaching material?
    a. A well-written teacher's manual.
    b. Abundant activity material for pupils.
    c. Good reference lists.
    d. Work books, practice materials, etc.

For those who are interested in a more detailed study of textbooks, the following criteria, which were prepared several years ago by Dr. Fannie Dunn of Teachers College, Columbia University, will be useful.

ELABORATION OF SOME SUGGESTED CRITERIA

1. Service to approved objectives of the subject.

Spelling

Control of vocabulary of proven value.

Reading

Control of reading skills, resulting in comprehension and speed.
Enrichment of personality.
Development of desirable interests.

Arithmetic

Accuracy and reasonable speed in socially necessary computations.
Application of abilities in life needs.
Development of a method of thinking in number situations.

Language

Control of tools of expression through oral and written use of the vernacular.
Development of language as one form of creative art.
Necessary grasp of fundamentals of grammar to afford guidance in unhabituated usages.

History and Geography

Appreciation of causal relationships in human affairs.
Interpretation in terms of causal factors.
Widening of sympathies and appreciations to include all peoples.
Information essential to read comprehendingly current events.
Development of interest in social studies.
Development of problem-solving attitude and ability in social field.
Control of methods of library study.

Fine and Practical Arts

Enrichment of life through discriminating use of products. Appreciation. Consumption.
Discovery of aptitudes and development of creative abilities along one or more lines, to the end of freeing of personality.

2. Adaptation to pupils' use: interest, reading difficulty, study guidance, self-checks, adequate indexing; provision for individual differences—in ability: difficulty, rate of progress; in interest: opportunity for individual initiative or selection.
3. Adaptation to teacher's use: wealth of material for use; adaptation to school situation for which considered; clear relationship of purpose and place; summaries, teaching helps, manuals, etc.
4. Make-up: ease of keeping book open; print, visual aids, probable durability.
5. (More or less implicit in 1-3 above, but made explicit for purpose of emphasis): utilization or application of results of scientific investigation

as to social values or psychology of learning; recognition of modern philosophy of education and its application in curriculum, as in emphasis on process rather than on product, on activities rather than on passive reception and recitation; development of abilities of independent growth.

Additional references on the selection of textbooks are:

BAMBERGER, F. E., *The Effect of the Physical Make-up of a Book Upon Children's Selection.* Johns Hopkins University, Studies in Education, No. 4. Baltimore: Johns Hopkins Press, 1922.

BRAY, W. J., "Selection of High School Science Textbooks." *Science Education,* 18:147-151 (October, 1934).

BUCKINGHAM, B. R., "Scientific Development and Evaluation of Textbook Materials." National Education Association, Department of Superintendence, *Official Report,* 1933, pp. 159-166; N. E. A. *Proceedings,* 1933, pp. 602-609; or (condensed) *Nation's Schools,* 12:45-48 (July, 1933).

DAHL, E. J., "Choosing a Textbook in Senior High School Social Studies." *School Review,* 25:621-625.

FOWLKES, J. K., *Evaluating Textbooks.* Silver, Burdett and Company, 1923.

FRANZEN, R. H., and KNIGHT, F. B., *Textbook Selection.* Warwick and York, 1922.

GREGORY, W. M., "Scoring Plan for Elementary Geography Texts." *Education,* 55:307-313 (January, 1935).

HARAP, HENRY, "Evaluation of Courses of Study and Textbooks" (bibliography). *Review of Educational Research,* 4:194-198 (April, 1934).

MAXWELL, C. R., *Selection of Textbooks.* Houghton Mifflin, 1921.

MCELROY, H. C., "Selecting a Basic Textbook" (bibliography). *Modern Language Journal,* 19:5-8 (October, 1934).

NATIONAL COUNCIL OF TEACHERS OF ENGLISH, Committee on Evaluation of Textbooks, DORA V. SMITH, Chairman, "Evaluation of Composition Textbooks." *English Journal,* 21:280-294 (April, 1932).

After the textbook has been selected, it still remains for the supervisor to guide teachers in its use. On the following page is an analysis of the uses made of textbooks in representative elementary schools in New York State as reported in Informal Teaching Series, Circular 3, *The Use of Textbooks.* This is doubtless fairly characteristic of the country as a whole. Three categories are given: formal, less formal, and informal. These suggest possible steps which may lead toward better practice in a given situation. In small rural schools it is quite possible to offer pupils a wider variety of textbooks, especially in such fields

as the social and the natural sciences, by the simple plan of having each pupil in the group own a single copy of a different modern text which he shares with other members of the group.

Formal	Less Formal	Informal
1. Who determines the choice of textbooks?		
Teachers and supervisory officers immediately responsible have little or no choice in the selection	Chosen by principal and supervisors	Chosen cooperatively by securing judgment of everyone concerned including teachers
2. What is the administrative provision for the use of textbooks?		
Kept as a set for the exclusive use of one class	Texts lent to class for period of time needed	Exchanged freely among various classes
3. How are textbooks used in making assignments?		
Curriculum determined by textbooks	More than one textbook used. Teacher supplies other materials	Texts and other books used as references. Pupils seek and use other materials
4. What provision is made for differences in pupil ability to use texts?		
All pupils in same class use same set of books simultaneously	Teachers choose different books which pupils may use	Various books of different degrees of difficulty used at same time depending upon ability and interests of pupils
5. How do teachers use textbooks in oral work?		
In classes such as oral reading or social studies, pupils are required to follow silently in their own books	One group takes turns reading pages of story to other group	Class becomes audience for new story which one pupil has chosen and prepared in advance
6. What is done if the book is too difficult for some pupils?		
Teacher reads difficult portions to pupils who can not understand text	Pupils having difficulty are required to reread with special emphasis upon vocabulary	If texts are too difficult easier books which pupil can understand and enjoy are made available
7. What provision is made for individual differences?		
Entire class is assigned same number of pages	Amount of work varied for different sections of class	A common theme or topic is followed but materials and reference are varied according to individual abilities and interests
8. To what extent are pupils required to master the contents of books?		
Pupils must know what author says and agree with ideas of teacher	Pupils allowed to question author's or teacher's statements	Pupils are taught to reserve judgment, seek evidence and exchange ideas before forming opinions

9. What is the goal to be attained in the use of textbooks?

Mastery of subject matter is the goal	Mastery of the tools of learning is the goal	Desirable attitudes, appreciations, abilities, habits and skills are the goals

10. How are pupils tested after the completion of their work?

Class is given written examination on content of text and is required to attain a fixed standard	Pupils may not be examined but teacher marks on daily recitations	Success is measured by the satisfactory completion of tasks chosen or assigned on the basis of the individual pupil's age, progress and ability to achieve

We have a teaching profession capable of breaking away from traditional practices in the use of textbooks as its members have broken away from many other traditional teaching methods. This will be accomplished when we supply the means and grant the same freedom to teachers in matters of instruction that we have come to insist teachers grant to children in their learning activities. The above chart indicates one simple way to begin.

Supplementary text types. Many books of the purely informational type enrich and vitalize the subjects of the curriculum and aid the child in his study and work activities. Because of their close connection with school work, books of this type were probably among the first books of general reading interest admitted to the traditional schoolroom. In time such tools took their place beside the textbook as supplementary texts and, as has been the case with the purely textbook type, such materials have now been improved until many supplementary texts are as charmingly written as the best story books and are illustrated with the work of well-known children's illustrators and artists. Because of the great advance made in this type of publication, it is quite difficult at times to classify a book as general literature or as a supplementary textbook. In fact, quite frequently one takes the place of the other as far as the child's interests are concerned. For example, in a unit of work on "Shelter," a teacher listed among other books which her children had used in their study: Carpenter, F. G., and Carpenter, Frances, *Houses We Live In;* Cautley, Marjorie, *Building a House in Sweden,* and Petersham, Maud, and Petersham, Miska, *Story Book of Houses.* One will have no difficulty in classifying *Houses We Live In* as a supplementary text—a delightfully

written and excellently illustrated one; or in determining that *Building a House in Sweden* is a predominatingly literary type. But what shall we do with the Petershams? Is this book a supplementary textbook, a beautiful story book, or is it a combination of both? May it not be also an indication of the tendency to produce supplementary texts which are as "interesting as story books"? In evaluating and selecting supplementary texts, therefore, supervisors and directors of education need to show teachers how to determine the better types and to recommend only those that have high literary value as well as a high degree of accuracy in content and beauty in illustration.

In the primary grades there is a tendency, especially in the field of reading, to use a number of different supplementary reading texts instead of following closely the material in sets of supplementary readers, with a copy of the same book provided for each child. Children on the primary level need not only vastly more practice in reading than their reading texts afford, but they need, also, simple story material in abundance which will give information and help to answer their many questions. Most of all, they need the cultivation of a love of reading for the joy it brings. Hence that portion of the supplementary text collection intended for the primary children should contain beautiful picture books and many interesting stories, simply written and abundantly illustrated. Many of these may be the charming primers and first readers now available, and it is recommended that single copies of thirty to forty different primers and readers be used on the individual basis with members of the class. Thus a wide range of supplementary reading material may be made available at a comparatively low cost.

The several titles listed below, as samples, indicate the improved type of supplementary textbook which is now available.

Art

Hillyer, V. M., and Huey, E. Greene, *Child's History of Art.* Appleton, 1933.

Smith, Susan Cowles (Grant), *Made in America.* Knopf, 1929.

Whitford, W. J., Edna, B. L., and Gray, W. S., *Art Stories,* Life Reading Service, Curriculum Foundation Series. Scott, Foresman, 1933.

Music

McGehee, T. C., *People and Music.* Allyn, 1929.

Handicraft

Eckford, Eugenia, *Wonder Windows.* Dutton, 1931.
Hamilton, E. T., *The Boy Builder.* Harcourt, 1933.
————, *Handicraft for Girls.* Harcourt, 1932.

Social Science

Webster, H. H., *The World's Messengers.* Houghton, 1934.
Hartman, Gertrude, *The World We Live In and How It Came To Be.* Macmillan, 1931.
Lacey, I. B., *Light Then and Now.* Macmillan, 1930.

Science

Dunn, F. W., and Troxell, Eleanor, *By the Roadside* (Mother Nature Series, Book 2). Row, Peterson, 1928.
Rush, C. E., and Winston, Amy, *Modern Aladdins and Their Magic* (also published in school edition under title, *Science of Things About Us*). Little, 1927.

Literary or Leisure Reading Types

Realizing the value and need for the kind of education that children gain from the use of a well-rounded book collection, this section of Chapter III, "Books for Children," has thus far discussed reference materials for children, the place of textbooks, and the problem of supplementary texts, and now attempts to view the larger field of children's books of the purely literary type. In recent years, increasingly large numbers of these books have been finding their way into classrooms. What place should they occupy? How should supervisors guide teachers in their use? Which types should be selected for classroom purposes? A partial answer to these questions is indicated below.

Compare a child's interest in a narrative of the development of communication, such as that given in Walker's *How They Carried the Mail*, with his interest in this same topic as discussed in his textbook. Watch the young adolescent reading a well-written story covering in an authentic spirit the American colonial period and then ask if he does not need this vividly developed picture as well as the account which he finds in his school text on American history. Compare the *Old Curiosity Shop* with the condensed textbook account of the corresponding

period in English history. Compare the discussions of the problems of taxation and banking found in textbooks with the accounts now given in current literature. From such comparisons one is forced to conclude that a rich collection of story books and periodicals is just as essential in the classroom as are the maps or the globes, the textbooks or supplementary texts, the furniture, ventilation, or heat. Juvenile literature meets a real need in the child's education and its use is strengthened when the teacher sees the teaching possibilities of a particular story and helps the child to find the curriculum connections involved either in the background and setting of the story or in its main stream of events.

Because books used in this way lend themselves to many purposes in enriching learning, various aspects of the problem are considered here. There are (1) those leisure reading or literary type books which correlate directly with a particular problem which boys and girls are facing or with a particular phase of the curriculum, such as the familiar *Hans Brinker*; (2) then there are those types, both poetry and prose, which reveal the thought life of a people or of a country being studied, such as diaries, journals, songs, and poems written at a particular period, or folk songs and folk literature that express in their very essence the climatic conditions under which a people live; (3) next, the books for appreciation of life and living in general, and in this group are found books for particular hobbies; (4) and finally, there are books to meet the needs of special groups of children—the retarded, sight-saving cases—and a discussion of children's periodicals.

This suggests a different use of such material from the once familiar practice in the traditional school, where children were permitted to draw a story book from the library collection on Friday afternoons for recreational reading during the week-end, and where they were even punished sometimes for reading story books during school hours. Certainly they were not permitted to read such books, or even supplementary texts, until their "lessons were done." If curriculum implications were present in the story, the child either did not discover them or stumbled upon

them by accident. Few teachers thought to point them out to children or to use such materials in the regular class work in order to lend breadth and depth to the curriculum.

In progressive schools today a very different attitude prevails. We find children reading and discussing books of the literary or leisure reading type, both poetry and prose, that correlate with experiences which they are having in the social studies field, in the field of science, or in other fields of classified knowledge, and these books give them background and wider understanding. For example, we find children who read *Robin Hood* when they were in the fifth grade using it again in the first year of high school as background for *Ivanhoe*. The familiar *Heidi* is no longer merely a charming story book; it becomes part of the background for the children's study of life in the mountains, and a child consults it carefully to see if the cows were carried to four or to only three different pastures. A discussion regarding altitude zones takes place, and the children's understanding of climate is immeasurably enriched. Wilder's *Farmer Boy*, a delightful story of a boy on a typical American farm about sixty-five years ago, gives the background for a lively discussion of the question of natural education gained through living in a rich educational environment, as was Almanzo's, compared with the modern boy's need for formal schooling, since so little of the complex world about one can actually be experienced at first hand today.

Such a book also enlivens the social studies hour, if it is introduced at the right moment. Children today travel with the pioneers from New England out to the Genesee country of New York State with Mrs. Orton's *Treasure in the Little Trunk*. They relive the life in the ante-bellum South with Rose Knox's *Boys and Sally Down on a Plantation*. They discover colonial Virginia through Nancy Byrd Turner's *In the Days of Young Washington*. Their interest in certain phases of elementary science is stimulated by Porter's familiar *Girl of the Limberlost*, and we find them checking its accuracy in certain respects. As they study Holland, we find them deep in Daniel's *Broken Dykes* and know that not only has their historical insight been broad-

ened, but their understanding of the geography of the country has been immeasurably increased, because this particular book reached the children at the right moment and through class discussion its hidden implications were brought out and curriculum connections were made clear at the time most suitable for maximum enrichment.

Children do not like biography, we are sometimes told, yet we find them devouring Lagerlöf's *Memories of My Childhood* in the secondary school, which with *Marbacka* completes one of the most original and beautiful autobiographies of our time, and with its Swedish background contributes much to understanding of that country. When the French Revolution is being studied the girls, and boys, too, are buried in Eaton's beautifully written *Daughter of the Seine.* And *Invincible Louisa* proves to be not only a delightful story-biography but also an added source of satisfaction when it is presented as a true picture of a particular period of American life and is recognized as the life story of a well-loved author.

The boys travel the New England hills with Robert Frost's *Collected Verse*, gaining something of the feeling of climatic influence and of native folk ways that can never be obtained from textbooks. Incidentally, they come to love poetry also. The number of such books is almost inexhaustible, but it is possible to mention here only a few as illustrations of the type. The purpose is rather to re-emphasize the fact that probably only the brighter children see the curriculum connections in such material without guidance from the teacher. If the maximum integration of learning is to be made possible, the teacher must be able to guide children in this wider reading, must know the possible curriculum connections of each book in her collection, and must know how to make these connections vivid and meaningful to children.

The slogan is not merely "the right book for the right child," but also the right book at the right time, with opportunity for discussing it with an enthusiastic and well-read teacher who can bring out its curriculum connections without detracting from the life, color, and artistry of the work.

The newer books mentioned in the preceding discussion are listed here as samples of the type of book which has a close curriculum connection, if it is so used.

DANIEL, HAWTHORNE, *Broken Dykes.* Macmillan, 1934. $2.00.
EATON, JEANETTE, *Daughter of the Seine.* Harper, 1929. $2.50.
KNOX, ROSE B., *Boys and Sally Down on a Plantation.* Doubleday, Doran, 1930. $2.00.
LAGERLÖF, SELMA, *Memories of My Childhood.* Doubleday, 1934. $2.50.
MCSPADDEN, JOSEPH WALKER, *How They Carried the Mail.* Sears, 1930. $3.00.
MEIGS, CORNELIA LYNDE, *Invincible Louisa.* Little, 1933. $2.00.
ORTON, MRS. HELEN (FULLER), *Treasure in the Little Trunk.* Stokes, 1932. $1.75.
TURNER, NANCY BYRD, *In the Days of Young Washington.* Houghton, 1931. $2.00; school edition, $0.92.
WILDER, MRS. LAURA (INGALLS), *Farmer Boy.* Harper, 1933. $2.00.

Another group of literary books, both poetry and prose, which should be used more in the modern school are those that express the thought life of a people or of a country being studied, or that emphasize the attitudes and feelings of people passing through a particular epoch. Diaries, journals, letters, personal narratives of the period, songs and poems written at the time, novels of the day—all these, if used at the right moment, help to broaden the child's understanding in a way that no textbook can do, not even a textbook accompanied by many charming story books written about the period at a later date.

To really know Tom Jefferson, for example, one must see him through the voluminous correspondence which he carried on with numerous acquaintances, a multitude of friends, his young daughters, Martha and Maria, and other relatives until it seemed "as if there could be no one left in the land who did not write to him in search of information, as they might have thumbed through an encyclopedia." Perhaps John Adams was the one correspondent in Jefferson's later years to whom he did not begrudge what grew to be a veritable "slavery to the pen." And such letters as they were, especially during the last ten years of that long friendship between two old men! Lisitzky, in his biography of Jefferson, says: "They discussed everything without reserve. What did Jefferson think of the hereafter? Would

Adams live his life over again, if he had the chance? Did Jefferson remember that time at the Continental Congress . . . ? Wasn't it in London that Adams had said . . . ?" And so on, until the end. How can young people today really understand the ideas that motivated the hearts and minds of leaders in the American revolution and the subsequent period unless they read such materials?

How much better one can know the Chicago that existed from 1860 to 1870 if he has viewed the scene through young Julia Newberry's eyes as recorded in her charming diary, recently discovered and published in 1933. Or take, for example, Theodore Roosevelt's spicy letters to his children. The brief excerpts usually brought together in source books are dry indeed when compared with the richness of these lively human documents.

To know the scientific age in which children are living today, the high school student must see something of the long struggle of men who have achieved in the fields of science as one sees them who is himself a scientist, and who is living in a period of remarkable advance in this field. Paul De Kruif, the bacteriologist, has helped young people gain this view in *The Microbe Hunters, Hunger Fighters,* and *Men Against Death.*

Can a child really understand the people of a foreign country until he has visioned certain aspects of life there, revealed in the writings of its own people? The Russian school boy becomes a real person to the American lad in high school when the latter reads, during his study of Russia, a translation of Marshak's (Ilin) *New Russia's Primer* and realizes that the Russian boy is studying this book every day as he learns what the Soviet leaders want him to believe about his world. American children see Italy more vividly through their joy in *Pinocchio,* and this joy is increased when they recognize the story of the widely known marionette as a translation of a charming Italian tale, so loved by Italian children and so full of the sunshine and shadow of their bright land that it has almost become a classic. They suspect, too, that Lorenzini must have known and loved the Italian puppeteers and understood something in the atmosphere of his country that could produce the most famous puppeteers in the

world. Fortunately, an increasing number of foreign books for children are available today in good translations. It is possible for young people to know something of the Scandinavian countries through such books as Beskow's *Pelle's New Suit* and *Olle's Ski Trip,* Schram's *Olaf, Lofoten Fisherman,* and Moe's *Bear Poor-man*; of Germany through such books as Eisgruber's *Spin, Top, Spin,* and Kastner's *Emil and the Detectives.* India becomes more real through Mukerji's *The Chief of the Herd*; France through Boutet de Nouvel's *Jeanne d'Arc*; Spain through Segovia's *Cuentos de Hadav,* the well-known fairy tales so popular with Spanish children. Poland becomes alive through the folklore of Borski and Miller's *Jolly Tailor and Other Fairy Tales*; and England through the eyes of the very modern and whimsical Mr. Milne. Lists of foreign books which are available in translations and which may be purchased through American publishers are compiled from time to time by special committees of the American Library Association.[1] The few titles mentioned here are listed as samples of such materials.

Another aspect of using the literature of a people to gain insight into their thought life may be seen in the contrast between writings about special racial groups and what these same groups say in their own creative writing. Children should read something about the Indians in addition to the trite primary doggerel, "Ten little Indians." They should have an opportunity to enjoy such materials as *Her Blanket,* the beautiful Navajo story found woven into a blanket, Chief Standing Bear's *My Indian Boyhood,* or some of Mary Austin's translations of tribal songs from the American Indians, in order to see the Indian in what he says when he tells about his own life. In addition to *Epaminondas,* greatly loved though the folk tale be, and Helen Bannerman's *Little Black Sambo,* in both of which people of the white race have written about Negro children, boys and girls should come to appreciate Paul Lawrence Dunbar's picture of the small colored child in his charming *Lullaby.* Such experiences must necessarily broaden sympathy and enrich understanding.

If we wish children to understand the race problems in their

[1] Information may be obtained by writing to the Association at its headquarters, 520 North Michigan Avenue, Chicago.

America, they must come to know and understand the American Indian through his own thought life; they must sense the background of Negro spirituals, they must see the Negro through the eyes of Countee Cullen's verse, stand with James Corrothers at "The Closed Gate of Justice," read with Dunbar "When Malindy Sings," come "Up from slavery" with Booker T. Washington, and some day face "Fifty Years of Negro Citizenship" with Carter Woodson. In the section on books for special needs, there are lists of books which have been especially enjoyed by Negro children and by Indian children. It is suggested here that these books may be read with considerable profit by white children, too, as most of them already are. The purpose here is not to offer an extended list of books, but rather to point out again that children often fail to gain the integrated learnings possible from such reading activities unless teachers utilize them as actual materials of instruction and help children sense the underlying implications for the broadening and enriching of understanding.

In the discussion of the broad field of children's books thus far, an attempt has been made to call attention to the educational values which may be drawn from two types of literary materials: (1) those books—prose, including biography, and poetry—which correlate with the curriculum, and which by being used at a particular time when certain curriculum studies are pursued give background and understanding to the child's study, samples of which are listed on page 73; (2) those books which directly integrate the child's learnings by revealing the thought life of a people or of a country being studied and thus further strengthen and enrich his understanding; several of these are listed (on page 78) as illustrations of the type. There still remains that large field of general literature, enjoyed for its own sake, of which the types already mentioned are indeed a part. These are the books for appreciation of life and living, books for pure enjoyment, and books for stimulating and enriching special reading interests and hobbies of individual children or of groups. Such materials of instruction must be considered on the basis of their wider purposes, regardless of other possible educational im-

plications. For example, Eaton's *Daughter of the Seine,* referred to above as the type of biography which young people enjoy and which ties up directly with the study of the French Revolution because it depicts the life of Mme. Roland, is also a book which is a general favorite because it satisfies the pupils' hero interest. Lindman's *Snipp, Snapp, Snurr* series is pure fun and should be enjoyed as such. A book like Sperry's *One Day with Manu,* which carries the distinct flavor of its South Sea Island atmosphere and has an authentic geographic background that makes one almost feel the climatic influence of the heavy tropics, probably does not have a direct curriculum connection in many schools unless the children should happen to develop an interest in the South Sea Islands. Another very interesting book by the same author, *One Day with Jambi in Sumatra,* falls into a similar class. Other recent titles are White's *Lending Mary,* Coatsworth's *Away Goes Sally,* and Van Stockum's *A Day on Skates.* Yet these are samples of the type of delightful modern books which children should not miss and which should be enjoyed in their own right.

Girls and boys who begin to show definite reading interests along particular lines or who have special hobbies may be delighted to find how many American folktales there are in the library when such a list is posted; or young travelers may take a trip around the world in books with foreign background when they find: Africa—Berry's *Girls in Africa*; Alaska—MacMillan's *Kah-da*; Albania—Miller's *Children of the Mountain Eagle*; Canada—Phillips' *Gay Madelon*; Central America—Coatsworth's *Boy with the Parrot*; China—Lattimore's *Little Pear,* and so on down a long list.

Then there is the large group of books that help boys and girls who want to make and to do things. The young gardener is pleased to find Duncan's *Mary's Garden and How It Grew*; the stamp collector smiles over Butler's *Young Stamp Collector's Own Book*; the boy who loves the fields and streams glows in appreciation of Rhead's *Book of Fish and Fishing,* Seton's *Book of Woodcraft,* and Beard's *Shelters, Shacks, and Shanties.* Because it is impossible to list all of the good books in the various

fields of children's special interests, or even to approximate the vast numbers of these interests, the titles discussed are offered merely as suggestive of the great possibilities that exist. For detailed help on reading hobbies, supervisors and teachers should consult the bibliographies in the Appendix of this volume, and they should turn also to the nearest librarian for the further help which may be obtained from more recent lists known to her.

The books in the following list are given as samples of the type of literary material which may be assembled by any school to widen understanding and appreciation through (1) studying the thought life of a people or of a country as revealed in the writings of its own authors; (2) reading for pure enjoyment and to follow up individual interests and aptitudes.

Beskow, F. E., *Olle's Ski Trip.* Harper, 1928. $2.00.
———, *Pelle's New Suit.* Platt, 1930. $0.60.
Borski, L. M., and Miller, K. B., *Jolly Tailor and Other Fairy Tales.* Longmans, 1928. $1.75.
Coatsworth, E. J., *Away Goes Sally.* Macmillan, 1934. $2.00.
De Kruif, P. H., *Hunger Fighters.* Harcourt, 1928. $3.00; Blue Ribbon, 1931. $1.00.
———, *Men Against Death.* Harcourt, 1932. $3.50.
———, *Microbe Hunters.* Harcourt, 1926. $3.50.
Eisgruber, Elsa, *Spin, Top, Spin.* Macmillan, 1929. $3.00.
Kastner, Erich, *Emil and the Detectives.* Doubleday, Doran, 1930. $2.00.
Lindman, M. J., *Snipp, Snapp, Snurr and the Magic Horse.* Whitman, 1933. $1.00.
Lisitzky, Gene, *Thomas Jefferson.* Viking Press, 1933. $2.50.
Marshak, K. A., *New Russia's Primer.* Houghton, 1931. $1.75.
Mukerji, D. G., *Chief of the Herd.* Dutton, 1929. $2.00.
Mygatt, T. D., *Julia Newberry's Diary.* Norton, 1934. $2.50.
Roosevelt, Theodore, *Letters to His Children.* Edited by J. B. Bishop. Scribner, 1923. $2.00; pop. ed. $1.00.
Schram, F. C. W., *Olaf, Lofoten Fisherman.* Longmans, 1921. $1.75.
Segovia, Gertrudis, *Spanish Fairy Book* (Cuentos de Hadav). Stokes, 1918. $2.50.
Sperry, Armstrong, *One Day with Manu.* Winston, 1933. $2.00.
Standing Bear, Luther, *My Indian Boyhood.* Houghton, 1931. $1.75.
Van Stockum, Hilda, *A Day on Skates.* Harper, 1934. $2.50.
White, E. O., *Lending Mary.* Houghton, 1934. $1.75.
Woodson, C. G., *Fifty Years of Negro Citizenship.* Associated Publishers. $0.50.

Books for Special Needs

Many special reading needs of children have been only partially met and much work remains to be done on the various problems presented. For example, although more books in braille are available for blind children than ever before, and the new talking book may afford another outlet for them, there is still a dearth of easy reading material with subject content suitable for children of low reading ability, and very little, if anything, has been done to develop or to collect reading materials which appeal to certain minority groups.

Some effort to meet certain of these special needs has been made in a few places, however, and the information now available is given below. This includes books for use in sight-saving classes, books suitable for retarded children, inexpensive books of high literary value for places with small budgets, and books for special groups—Indian children, Negro children. Especially in the field of Negro literature several new booklists have appeared recently.

Books for sight-saving. A list of books suitable for children with seriously defective vision was compiled about a year ago by the Physically Handicapped Children's Bureau and the Library Extension Division of the New York State Education Department. The titles listed have been selected from the many recommended books for children and young people because of large clear type, unglazed paper, and simple, distinct pictures. The point of the type used in each book is indicated for each title. With the exception of four books printed in a very clear 14-point type, only books in 18-point or 24-point type have been included. The list contains picture books and easy books, myths and fairy tales, stories, poetry and plays, and books on nature study, geography, and history. Books suitable for children in all elementary grades are listed. There are fewer titles for the older boys and girls, however, since the number of such books suitable for children with seriously defective vision is comparatively small.

This appears to be the first list of its kind, although several years ago the American Library Association published a list,

"Books for Tired Eyes," which included books for both adults and children. This list, however, is not so highly selected for size of type. The first list referred to is:

New York State Education Department, *Good Books for Bad Eyes.* 1934. 1¢ pamphlet.

Easily readable books. Many attempts have been made to compile lists of books with subject content suitable for children of low reading ability but of advanced reading interests. Two recent efforts which are especially helpful are found in the Thorndike Library of simplified classics and in the recent list compiled by the Winnetka School System. These are:

Berglund, A. O. (Comp.), *Easy Books Interesting to Children of Junior High School Age.* Winnetka Public Schools, Winnetka, Ill., 1934.

Thorndike, E. L., Editor. The Thorndike Library: *Andersen's Fairy Tales,* Sewell's *Black Beauty,* Spyri's *Heidi,* Mulock's *Little Lame Prince* (with Kingsley's *The Water Babies*), Collodi's *Pinocchio,* and Hawthorne's *Wonder Book.* D. Appleton-Century Co., 1935.

Inexpensive books. Inexpensive books of high literary value are now often available and several lists of these have recently been made. A good list of ten-cent books has been compiled by Mildred Harrington for the American Library Association and may be obtained from the School of Library Science, Louisiana State University. The Library Extension Division of the New York State Education Department has compiled two similar lists. *The Booklist—A Guide to New Books,* published by the American Library Association, should also be consulted for its frequent lists of free and inexpensive materials.

Harrington, Mildred P. (Comp.), *Seventy Good Ten-Cent Books.* School of Library Science, Louisiana State University, Baton Rouge, La.

New York (State) University of the State of New York. *Fiction, Recent and Standard Fiction in Inexpensive Editions.* ($1.00 and less.) Albany, N. Y.

Williams, Alice, and Westervelt, Gretchen (Comps.), *Good Ten-Cent Books for Children.* State Education Department, Albany, N. Y.

Books enjoyed by Negro children. A selected list of books about Negro life recommended for use in elementary schools has been compiled by Martha Parks, Director of School Libraries, State Department of Education, Nashville, Tennessee, with the

assistance of librarians and teachers in her state and may be obtained from that department. Sample titles from the list are:

BERRY, ERICK (Pseud.), *Juma of the Hills.* Harcourt, 1932.
WEAVER, A. V., *Boochy's Wings.* Stokes, 1931.

Edna M. Colson, who has made a special study of race relations in Virginia and whose judgment in the field of Negro literature may be trusted, offers the following list of books about Negroes by Negroes, which contains material of interest to children, chiefly biographical.

BONTEMPS, ARNA, and HUGHES, LANGSTON, *Popo and Fifina.* Macmillan, 1932.
BRAWLEY, BENJAMIN, *The Negro in Literature and Art.* Dodd, Mead, 1930.
————, *Short History of the American Negro.* Macmillan, 1931.
BULLOCK, RALPH W., *In Spite of Handicaps.* Association Press, 1927.
DANIEL, SADIE, *Women Builders.* Associated Publishers, 1931.
DOUGLASS, FREDERICK, *My Life and Times.* DeWolfe, Fiske, 1893.
DUNBAR, PAUL LAWRENCE, *Life and Poems.* Dodd, Mead, 1907.
————, *Christmas Is a'Comin' and Other Poems.* Dodd, Mead, 1907.
FAUSET, ARTHUR, *For Freedom.* Franklin Publishing & Supply Company, 1927.
HARRIS, VIOLA B., *African Stories for Children.* Industrial Arts Coöperative Service, New York.
HAYNES, ELIZABETH ROSS, *Unsung Heroes.* Dubois and Dill, 1921.
JACKSON, WALTER CLINTON, *A Boy's Life of Booker T. Washington.* Macmillan, 1922.
JOHNSON, JAMES WELDON, *The Book of American Negro Poetry.* Harcourt, Brace, 1931.
————, *Along This Way.* Viking Press, 1933. (See Part I, pp. 1-123.)
RICHARDSON, WILLIS, *Plays and Pageants from the Life of the Negro.* Associated Publishers, 1930.
ROWLAND, MABEL (ed.), *Bert Williams, Son of Laughter.* English Crafters, 1923. (See Chapter I.)
PRITCHARD, MYRON T., and OVINGTON, M. W. (comps.), *Upward Path; A Reader for Colored Children.* Harcourt, Brace, 1920.
TALLEY, T. W., *Negro Folk Rhymes, Wise and Otherwise.* Macmillan, 1922.
WASHINGTON, BOOKER T., *Up from Slavery.* Doubleday, 1927.
WOODSON, CARTER, *African Myths.* Associated Publishers, 1928.
————, *Negro Makers of History.* Associated Publishers, 1928.

Books for Indian children. The best list of books for Indian children is by Rose K. Brandt, Supervisor for Elementary Education, United States Department of the Interior. This list may be obtained from the Office of Indian Affairs, Washington, D. C. Sample titles from the list are:

Amer, L. A., *Dark Circle of Branches.* Longmans, 1934.
————, *Waterless Mountain.* Longmans, 1931.
De Haff, E. W., *Five Little Katchinas.* Houghton, 1930.
La Farge, Oliver, *Laughing Boy.* Houghton, 1933.

Children's Periodicals

Periodicals designed for children and young people present several problems in that (1) they are not particularly satisfactory as to literary quality; (2) they change frequently in character, interest, appeal, tone, authority, and subject matter value; and (3) they seem stilted and made-to-order. On the other hand, for pictures of contemporary life, for discussions of recent problems, for current literature, and for comments on the most immediate developments in the thoughts and work of the world, the periodical is invaluable. Some of those which are mentioned today may become unsuitable or may have suspended publication before these words are read. Yet these or similar magazines may have achieved genuine success by their really great accomplishments. The only practical advice which can be given is that the problem is one that needs continuous attention.

Among the periodicals most used at the present time are *Child Life, St. Nicholas, Spy Glass,* and *Scholastic,* which are so well known that they do not require special listing. Knowledge of the interests and reading ability of the group or the individual and knowledge of the magazines themselves are essential for satisfactory selection.

Among the adult periodicals constantly used by children everywhere, the most useful are *The National Geographic, Nature Magazine,* and the popular scientific periodicals.

Anthologies and Story Collections

For small schools that can not afford to own a large poetry collection, or when the number of story books must be limited,

the selection of suitable anthologies and story collections presents a problem. The brief lists given below have been carefully selected from a much longer list as representing a wide range of interests and variety in type of material.

Poetry Anthologies

Barrows, Marjorie, *A Book of Famous Poems for Older Boys and Girls.* Whitman, 1931. $0.10.

————, *One Hundred Best Poems for Boys and Girls.* Whitman, 1930. $0.10.

Harrington, M. P. (ed.), *Ring-a-Round.* Macmillan, 1930. $3.00.

Huber, M. B., Bruner, H. B., and Curry, C. M. (ed.), *The Poetry Books* (9 vols.). Rand, 1926. Vol. 1-3, $0.64 each; vols. 4-6, $0.76 each; vols. 7-9, $0.80 each.

Stevenson, B. E. (comp.), *Home Book of Verse for Young Folks* (rev. ed.) Holt, 1929. $2.75.

Teasdale, Sara (comp.), *Rainbow Gold.* Macmillan, 1922. $2.00; school edition, $1.60.

Thompson, Blanche J. (ed.), *Silver Pennies.* Macmillan, 1925. $0.80.

Untermeyer, Louis (ed.), *This Singing World.* Harcourt, 1923. $3.00.

Van Doren, Mark and Lapolla, G. M. (eds.), *Junior Anthology of World Poetry.* Boni, 1929. $2.50.

Wiggin, K. D. and Smith, N. A. (comps.), *Golden Numbers.* Doubleday, 1902. $2.00.

Collections of Stories

Association for Childhood Education, Literature Committee, *Told Under the Blue Umbrella.* Macmillan, 1933. $2.00.

————, *Told Under the Green Umbrella.* Macmillan, 1930. $3.00.

Davis, M. G. (comp.), *Baker's Dozen.* Harcourt, 1930. $2.00.

Hodgkins, M. D. H. (ed.), *Atlantic Treasury of Childhood Stories.* Little, 1928. $2.50.

Hutchinson, V. S. (comp.), *Chimney Corner Stories.* Minton, 1925. $2.50.

Jacobs, Joseph (ed.), *English Fairy Tales.* Putnam, 1904. $1.75.

Power, Effie (comp.), *Bag o' Tales.* Dutton, 1934. $5.00.

Scudder, H. E. (ed.), *Children's Book* (new ed.). Houghton, 1910. $4.00.

Steel, F. A. (ed.), *English Fairy Tales.* Macmillan, 1924. $1.00.

Instruction in the Use of Books

The objectives of library instruction are (1) to present books—subject-matter books, textbooks, reference books—as tools so that pupils will acquire skill in gaining information from them and

a means of continuing to gain information throughout their lives; (2) to introduce pupils to a particular school library or book collection so that they will know its resources, its arrangement, its catalog, and be able to use these efficiently; (3) to introduce pupils to the public library and to allow for experience in using libraries so that the library as a community institution and a center for book information and service may be known and used; (4) to provide an opportunity for reading for pleasure, so that the reading habit and the possibility of having recreational reading a lifelong resource will be established; and (5) to aid children in finding books to meet their particular interests, to help them know how to select books from a rather large collection, to introduce them to books of different types, and to increase their appreciation of reading and literature. Several books which will aid the school in developing systematic library experiences for children are:

Denver, Colorado, Public Schools, *Library Instruction*. Course of Study Monograph 28; Junior and Senior High School. 1930. $1.00.

Ingles, May, and McCague, Anna, *Teaching the Use of Books and Libraries*. Wilson, 1931. $1.80.

New York (State) University of the State of New York, Albany, *Library Instruction*. Author, 1933. $0.10.

Summary

This chapter has tried to accomplish two purposes: (1) to show how extension and control beyond the child's immediate environment may be gained through an adequate use of the educational service of books; (2) to list books for superintendents, supervisors, and principals which will help them to guide teachers in the wise selection of printed materials, and to see the wide possibility for education that lies in the use of a rich and varied book collection containing reference materials, good supplementary materials, and books that enrich understanding in many different aspects of life both in school and in the world at large.

CHAPTER IV

MODERN AIDS FOR EXPERIENCES IN LEARNING

W. M. Gregory

The method of acquiring skill in living varies with the cultural stage of a people and their ability or desire to use their environment. Primitive people learned to live by trial and error, through long and bitter experiences. As civilization advanced, the book became the important tool of learning, replacing the trial and error method to such a degree as frequently to obscure the fundamental relation that method bears to progress. For, even in this complex mechanical age, learning from experience is still fundamental to living. All knowledge is constantly being revised by trial and there still is abundant need for observation, exploration, and experiment.

John Dewey insists that "learning involves not only a knowledge of things but also the meanings of things." The beginning of thought is involved in the meaning of things. Meaning as applied to things comes through various types of experience which give to a thing a sensible and particular existence. Mere word learning without experience is useless verbalism. The words of the printed text are not ideas until they have been transformed into concepts through real or vicarious experiences, which are consequently of primary importance.

Education has been too far removed from the basic experiences of modern life. Many schools are quite deficient in opportunities for sense perception, exploration, and raw experiences. They need fewer words and more activities with things, situations, conditions and relations. For useful learning pupils require experiences with the raw materials of life. A garden, a shop, a live animal collection, trips to a farm, a mill, a store, a fire station,

a post office, a park, a museum, etc., all have a place in the modern school. Many of these raw materials and elementary experiences are so common to the adult that their importance to the child is apt to be overlooked.

Materials Affording Basal Experiences

For all pupils to obtain original, first-hand experiences is, however, often too expensive and too time-consuming. It is just here that the modern tools of learning convey to the pupils vicariously the materials for observation and acquaintance. Picturization is now so widespread through the movies, the picture magazines, and the newspaper, that almost overnight an attitude, idea, or experience can be given to a vast number of people.

The motion picture is the greatest tool for conveying human experience that has yet been invented. Its remarkable capacity for story telling and for creating attitudes is exceptional. It gives everyone a front seat as an eye witness to an event. It is reality itself, multiplied indefinitely and for all beholders. This learning tool is destined to be of enormous service in accomplishing changes in education. It is destined to influence civilization far more than did the printing press. The motion picture can do in decades what the printing press and the slow process of book education have taken centuries to accomplish. Its materials, however, must measure up to the highest artistic and educational standards. With intelligent direction it can give much of the life experience which is basic to modern civilization.

The objective materials that are suitable school equipment are well known to school officials and to teachers. They include such items as a library, microscope, lantern slide and motion picture projectors, telescope, cages, cases, files, an aquarium, printing press, radio, duplicating machine, typewriter, tools, and cameras.

A recent general inventory of the larger schools of this country shows inadequate supplies of these modern learning tools. This deficiency is not due wholly to their cost but quite frequently to lack of imagination and ingenuity on the part of school officials and teachers. Many teachers do not know that certain types of objective materials are as necessary in the school as the telephone

is in business or the automobile in transportation. The following objective resources should be within reach of any school: (a) field trips—school gardens, laboratories, workshops; (b) specimens—raw materials, samples, exhibits, museum groups; (c) models—casts, replicas; (d) pictures—still pictures, lantern slides, motion pictures, sound motion pictures; (e) maps, charts, globes, graphs, posters.

A recent survey reveals that some fifty per cent of the courses of study in use include suggestions as to the use of objective materials. Many courses that have been checked by the writer are indefinite in their references to objective materials, and frequently the materials suggested are of small value in real learning situations. It is true that *things of aid to learning* are listed more frequently than formerly, but these lists are superficial and the standard for their selection is often low. It is evident that the plans for elementary schools make a better use of materials than those for high schools in their academic courses. The latter schools, in spite of laboratories and shops, depend largely upon the text, while the elementary schools make a greater use of objective materials. In both, however, pupils are made to depend upon the text to a greater degree than most teachers will admit, and the tests administered are frequently so arranged that knowledge of the word content of the text is all that is tested.

In the past the teacher garnered her own illustrative materials, since the older courses of study were merely outline statements of subject matter. Under these conditions she had to lean heavily upon the book, as it was the chief learning tool. The modern effort to include objective materials as aids to learning has not always been received with enthusiasm by school executives, as it means greater care and thought in school organization and makes requirements upon budgets.

The inclusion of teaching materials in a course requires the selection of the best, by classroom test, for the presentation of each particular unit. The best, however, is not always represented by the advertising materials which too frequently have been collected for classroom use. Some larger cities have placed a ban on all types of advertising samples, booklets, films, etc.

There is a demand for objective materials of a high standard that will create worth-while experiences for the pupils.

In each learning phase of the various subjects, the objective materials which are essential should be known, secured, and used. An inventory of the vocabulary of even the elementary school subjects will reveal a large number of objects or ideas for which the child learns a name, but which too frequently he cannot identify. This is vicious word learning which precludes clear thinking. It is necessary that the objective materials which are basal to meanings be determined by work with children and that the results serve as a basis for their selection. Much can be accomplished if the objective material is of high quality and scientifically adjusted to the needs of the pupil.

Not only is the selection of materials to aid learning of prime importance but also the teacher's technique in their use with the pupils. It is the *experience of the pupil with materials* in the broadest sense that is basal to learning. Some of the modern aids to learning are mechanical in their operation. *This has led the teacher to assume, too frequently, a passive attitude in their use.* This is a mistake, for mechanical aids are tools that greatly increase the power of the teacher to bring to the pupil many types of valuable experiences. Such devices will never replace teachers but can serve only as aids to greater skill and speed in learning.

Field Trips as Basal Experience

Field trips are vital experiences for elementary and secondary school pupils, especially under skillful guidance. Such trips give some initial understanding of the simple activities of the community.[1] A field trip is very rich in opportunities for discoveries and explorations of real situations. It is most unfortunate that such activities are relatively scarce in modern schools. Contact with real material in its natural setting in a pupil's environment gives the clear concepts which are necessary to thinking. Field trips in proportion to their cost rank high as effective first-hand experiences for the following reasons:

[1] See Harden, Mary, "Going Places and Seeing Things." *Educational Method:* 14:324-331 (March, 1935).

1. The field trip acquaints the child with the life situation in his neighborhood.
2. It enables the pupil to learn of his own environment through observation and experience.
3. The field trip stimulates interest in the home and community problems. It brings useful concepts to the lessons in geography, community civics, local history, vocations, etc.

The teacher should always make a preliminary visit and learn of the conditions to be encountered on each field trip. The pupils' questions should be answered by observations on the trip. Some important elementary field trips may be taken to the home, the store, the park, the street, the school garden, and the shop. These trips reveal some of the natural environment from which the pupil obtains useful experiences that provide general concepts for working knowledge. The local field trip[2] enriches the local geography which at present is too meager and suffering from an overdose of "children of other lands."

More advanced field trips for junior and senior high school pupils may include:

1. The local industries. Such trips contribute to the understanding of the industrial regions of the nation.
2. Field studies of typical land forms, rock exposures, and soil. Such studies give concrete ideas which enable the pupil to vision the conditions of other lands and the problems of other people.
3. Vocational field studies. Such studies give pupils of the adolescent period opportunity to know something of the various types of labor in their community and give some basis for a choice of an occupation.[3]

A recent investigation of 366 important schools of this country shows that less than three per cent of the schools give field trips any attention. In fact, field trips were so unimportant that they were omitted from the answers to the questionnaire. In another investigation a majority of school principals considered a field trip of high value, yet the average performance was low. In fact, the investigator says: "It is evident that only a small percentage of

[2] Huntting, Ella, "The School Neighborhood." *Journal of Geography:* 26:230-238 (September, 1927).

Dillon, Jessie M., "Field Trips in Geography in the Elementary School." *Thirty-second Yearbook, National Society for the Study of Education,* pp. 519-524. Bloomington, Ill.: Public School Publishing Company, 1933.

[3] Weaver, David A., "Excursions in a Metropolitan Center." *Thirteenth Yearbook, Department of Elementary Principals,* pp. 289-294. Washington, D. C.: National Education Association, 1934.

elementary school children are getting any contact with the outside world under the guidance of teachers."[4] It does seem that in many large schools the dangers, the expense, and the difficulties of class field trips are too great a problem for the principal and the teachers to meet.

Museum trips. One type of field trip that is common in cities is the visit to local museums. This coöperation between the school and the museum can stimulate the learning of pupils when planned, directed, and integrated with the course of study. The museums of art, science, and history are eager to render their services within the limit of their resources to aid learning in the schools.

The services which these institutions can render, however, are restricted quite generally to less than one trip per year for a small part of the school population. Carefully planned trips result in the best use of the pupils' time and money. No activities or lessons should be given in the museum which could be given by the teacher in the classroom. It is more effective to transport material to the school than to carry pupils to the museum.

Specimens, Models, and Similar Exhibits

Objective materials such as specimens, raw materials, samples, exhibits, and museum groups aid learning because they are real things and thus convey clear and accurate ideas. The great value of this type of material is that it can be taken in hand and examined in detail by the pupil in the classroom. In this group are included all kinds of animal specimens—alive or stuffed, preserved or mounted. The school pupils in certain localities need to know the live animals, such as the hen, the rabbit, the squirrel, the dog, the cat, the bird, etc. The care and observation of these animals furnish worth-while experiences. Such work naturally presents problems to the book-learning type of school, but it can be done. The local zoo sometimes coöperates and provides animals. Frequently some school patron will furnish pets. However, it is the function of the school to provide live animals as

[4] Price, R. H., "A Study of the Values of Field Trips." *Thirteenth Yearbook, Department of Elementary School Principals,* pp. 302-305.

they are needed and as their study is suggested in the curriculum.

Some very elaborate exhibits have been prepared by various American museums for circulation in the public schools. These exhibits are excellent in technical preparation but too expensive. They are entirely for display and cannot be handled by the pupil. This is unfortunate, as classroom material should be of such character and quality that pupils can examine it, experiment with it, and get various experiences from contact with it. Classroom material, whether collected by the teacher or by a museum, should be so arranged as to permit children the fullest study of its different parts and should be accompanied by definite instructions for its use.

The following extract from a course of study in elementary science shows the importance of the materials and how they serve as the center of activity.

THE HOUSE FLY

Objective:

To know the necessity of exterminating the house fly.

Activities:

Look at a fly, using a lens.
Why is it so difficult to hit or catch it?
Look at the fly from below and note the number of legs.
Look at its foot; describe it.
Watch a fly eat. Watch it clean its front feet, also its head.
Discuss how a fly carries disease.
What must you do to prevent flies bringing disease to your family?

Visual Materials:

The Educational Museum will supply the following visual materials upon request:

1. Lantern Slides: Fly.
2. Mounted Pictures: Fly.
3. Chart: Fly.
4. Film: Fly.

Pupils' References:

WRIGHT, J. M., *Seaside and Wayside, Nature Reader,* No. 2, pp. 56-70.
CRAIG, J. B., *Nature Study,* Third Grade, pp. 67-70.

Every school should have a school museum. This should be in charge of a teacher and should supply the specimens essential for

basic experience in a number of the elementary subjects. Many schools, however, depend upon the near-by museum for most of their material. This material is used on an occasional visit or may be sent to the classroom for use. Museums are no longer merely depositories, but rather educational institutions, and their materials should be available for instruction *in the schools.* Each school should gradually accumulate its own store of materials for class use.

Pictures and Picture Collections

Pictures, according to recent surveys, are the most common aids to learning. Pictures include stills, photographs, stereographs, lantern slides, silent movies—both the 35mm and 16mm—and sound movies.

There are fundamental reasons why the picture is so widely used as an aid in acquiring experiences. All picturization provides vicarious experience. In the modern world constant use is made of the vicarious experiences obtained through the medium of the picture. The magic mechanical aids to picturization bring seeming reality to everyone. Experiences leading to the understanding of remote regions and their conditions of life are now obtained from pictures that were beyond the trained explorers of a few decades ago.

The picture builds accurate concepts. Through it the word or symbol becomes meaningful. The wide use of pictures is recognition of the fact that visual images are basal to ideas and thinking. However, pictorial material must be accompanied by verbal instruction and tied in with the printed words. Educational research has shown that illustrations or pictorial materials have an influence in creating attitudes. It is recognized that progress in education depends to a considerable degree upon the tools that the teachers use in the classroom.

Beginning a working picture collection. Most school picture collections have originated in the efforts of a teacher to provide pictures. Today most of the still pictures, excepting those in the text, are supplied by teachers. The initial effort of a teacher to form a collection often results in a miscellaneous accumulation

that has neither quality, standard, nor value of more than passing interest. The personal collection, however, frequently contains the nucleus of a practical and useful collection for the school. As the teacher acquires a picture technique, she gradually discards the material which is useless and retains that which meets recognized standards. Some of the authorities[5] should be studied and their standards for picture selection followed.

Working picture collections are not difficult to form if, from the beginning, a system is followed. Collections should be made for the different school activities and each unit of study should receive some attention. A working picture collection can not be purchased in its entirety. This idea must be clearly understood by the school authorities. It should likewise be understood that a picture collection should be purchased under the guidance of expert teachers.

Housing the collection. A picture collection is standard equipment to be provided, just as a library or a laboratory, and should be housed in a room such as the school museum, the science room, the library, the social studies room, the visual room, or the office. The fundamental idea in this requirement is that it provides a definite picture center in each building in charge of an interested and alert teacher.

A picture collection should have a simple and practical working organization. This is of the utmost importance. The course of study should be the general guide for dividing the collection into definite subjects which are assigned each grade. Each grade in turn should have its materials for use as suggested in the courses of study. To accomplish this, all pictures should be coded, indexed, and placed in folders with guides. Such grouping of pictures saves time and confusion as the collection grows.

[5] Abrams, Alfred W., "Standards for Selection of Pictures." *New York State Education*, 19:281-283 (December, 1931). "Analysis of a Picture." *New York State Education*, 19:661 (April, 1932).

Blood, B. R., "Teaching Geography Through Pictures," *Thirteenth Yearbook, Department of Elementary School Principals*, pp. 204-208.

Cropper, Floyd A., "An Experimental Evaluation of the Ability of Children to Interpret the Pictures Used in Elementary Textbooks in Geography." *Journal of Geography*, 34:89-101 (March, 1935).

Halverson, Lynn H., "Pictures in the Teaching of Geography." *Journal of Geography*, 28:357-368 (December, 1929).

It is important to have the pictures in four-drawer legal size files, or, if this is too expensive, a cheap wooden file can be made. Further, the pictures which are worth while should be mounted. If a gray tagboard, cut 9 x 12 inches, is used for mounting it lengthens the life of a picture. Gray does not soil easily and it wears well. Some pictures that were mounted as suggested have been used more than twenty years, which is long enough.

After mounting, it is suggested that a study guide, test, game, puzzle, etc., be placed on the reverse side of each picture. In this manner the picture becomes a definite tool for learning. If some twenty-five pictures are thus prepared as a set, the teacher has a tool which aids the learning process for a group or grade of pupils. If the set of twenty-five pictures is placed in a heavy envelope which has a pocket with a charge card, the mechanical handling of the collection is made simple.

The cost of this aid to learning is small, and it is the beginning of a definite center for pictorial material for the school. Many types of schools will find it more profitable to the progress of learning to start a picture collection than to buy a motion picture machine. Small schools should make a beginning in geography, history, current events, civics, agriculture, home economics, marketing, forestry, general science, literature, etc. Pictures should be selected for a *distinct purpose* and with a *continuity* of thought in the series.[6]

It is important that an index be made so that the contents of a collection can be easily consulted and the different units of pictures quickly located. The above suggestions are for the teacher who desires to build up a school collection that will serve all subjects and all grades. (See Chapter VII.)

Sources for pictorial materials. There are innumerable sources for photographs and their reproductions in current magazines, newspaper supplements, and various reports of departments of the government. Many of the standard magazines which are rich in illustrations can be purchased for very little from second-hand dealers.

Every local community has photographers that will give prints

[6] Alexander, M. E., "Preparing and Filing Mounted Materials." *Thirteenth Yearbook, Department of Elementary School Principals*, pp. 194-198.

or loan negatives to a school collection. A school should own and use a camera. Its collection should represent the locality and be a source of materials for local studies. Well-made local photographs are of interest to schools in other communities and are valuable for exchange. The writer has exchanged prints with teachers from many sections of the United States. These photographs have brought pupils new experiences and have aided in building clearer concepts. It seems that with our penchant for forming organizations helpful to teaching there could easily be arranged an exchange of photographs and negatives at small cost. Such a plan has been in operation in England and it has been tried with success in this country. The pupils can assist and will gain useful experience in English in doing so.[7]

The writer suggests the following master lists and sources for a great variety of still pictures in various forms:

MASTER LISTS FOR PHOTOGRAPHS, SLIDES, AND CHARTS[8]

Thirteenth Yearbook, Department of Elementary School Principals, pp. 465-470, 476. Washington, D. C.: National Education Association, 1934.

National Geographic Magazine, Washington, D. C. (Also apply to second-hand book dealers for old copies.)

A. J. Nystrom and Company, Chicago, Ill. Large geographical wall charts.

H. W. Wilson and Company. Picture collections.

Thirty-second Yearbook, National Society for the Study of Education. Free materials, pp. 417-418. Bloomington, Ill.: Public School Publishing Company, 1933.

DORRIS, ANNA, *Visual Instruction in the Public Schools.* Sources of supply for illustrative materials, pp. 425-470.

American Museum of Natural History, New York, N. Y.

British Museum, London, England.

THE USE OF VISUAL AIDS ILLUSTRATED IN THE FIELD OF GEOGRAPHY

The two chief tools for giving geographical experiences are the picture and the map. Of these two, a group of teachers recently voted the picture the more important in giving reality to geographical concepts. It is important that the teacher under-

[7] Inter-school correspondence of Junior Red Cross.

[8] See also Appendix, p. 187 ff.

stand the technique of using pictures so that they function geographically, and that she understand that merely showing or looking at a picture is not enough. The pupil needs intelligent understanding, and unless he is guided in the use of pictures and led to use these tools geographically his concepts are as artificial as the facts that are merely memorized. From the following references the teacher will find helpful suggestions as to picture use and selection.[9]

Types of pictures for use in geography. The following classification of pictures will be of value to the teacher of geography. It should enable the teacher to evaluate pictures provided in the geography texts and picture collections. It should aid the teacher to recognize pictures which best meet the needs of the elementary pupil.

1. *Basic geographic pictures.* Pictures which show man in his natural environment and which suggest relationship of man to the environment. Such pictures may show: (a) man actively at work in his natural environment; (b) the results of man's work in its natural setting.
2. *Landscape or environmental pictures.* Pictures which reveal the landscape without evidence of man or of cultural adjustments. These pictures are of value in building concepts concerning features of the natural environment to which man makes his adjustments. In themselves such pictures lack primary geographic importance.
3. *Cultural adjustment pictures.* Pictures entirely concerned with items of the cultural environment. "Closeups" of industrial processes, factory interiors, and buildings have small geographic value except when they suggest ideas worth while in a geographical relationship. Pictures of cornfields, silos, dairy herds, dairy barns, and the like are important aids to geographic thinking.

The teacher will profit by using the above classification to test the pictures of any collection or in any text. Practice will soon enable one to choose geographical pictures that will suggest to the pupil ideas that are worth while. Such practice will soon

[9] Gregory, William M., Abrams, Alfred W., and Peters, Rupert, "Materials for Visual Instruction in Geography." *Thirty-second Yearbook, National Society for the Study of Education* (1933), pp. 385-394.

Peters, Rupert, "A Problem on New England Solved by Pictures." Kansas City, Mo.: Board of Education, 1928.

Thrall, Zoe A., "The Selection and Use of Pictures." *Journal of N. E. A.*, November, 1932, pp. 247-248.

reveal the value of a picture to build concepts. A broad landscape can be too complex for the beginner, and close-ups bring out details. The picture with basic geography quality suggests geographical relationship in addition to possible experiences for geographical concepts.

Using geographical pictures to obtain worth-while experiences. Many texts and teachers fail to use pictures in obtaining the experiences that make geography a valuable school subject. An improved technique in the use of pictures and better picture selection would do much to make geography more interesting and vital to the pupil. The following suggestions are made as to ways of using pictures:

1. *Pretesting.* Pictures used by the teacher to reveal the present knowledge of a class regarding a new unit of study. It is a diagnostic test, the results of which give the teacher a method of procedure.

2. *Introducing ideas.* New units of study are best introduced by well-selected pictures which present the outstanding characteristics of the region or country to be studied.

3. *Building initial concepts.* The picture is invaluable in building new concepts. Word description alone does not suffice, but when accompanied by pictures becomes worth while and meaningful. Interest and clearness of ideas are assured when pictures contribute to geographic understandings.

4. *Interpreting geographic relationships.* A landscape is a geographical laboratory. From landscape pictures, showing both cultural and natural features, the child can find many suggestions as to why man has done as he has in the region pictured. Landscape pictures from the different regions of all countries studied are essential to geography study.

5. *Contrasting human adjustment.* Well-selected pictorial material gives the basis for comparisons in the different adjustments made by man in various environments.

6. *Testing.* Pictures are valuable and reliable for reviewing and checking the ideas of pupils. There are picture tests that will prove suggestive and valuable to the pupils. Guidance for making effective picture tests at different grade levels may be secured from various sources.[10]

[10] For example, see Wilcox, Lillian A., "Using Informal Tests in Geography to Improve the Teaching-Learning Process." *Journal of Geography*, 27:319-323 (November, 1928).

Picture Unit for Study of the Netherlands

This unit is included here as an illustration of the use of pictorial material in the classroom study of the Netherlands in the sixth grade.

The mounted pictures necessary for the Netherlands unit of the geography curriculum are organized in a group of 25 views. The views, original 8″ x 10″ photographs, are mounted on dark gray durable tagboard. One picture from this unit set is here used as an illustration of method followed with all pictures in the set. This view of polders and canals shows man's adjustments to a low land environment. To understand these adjustments the pupil uses the picture, guided by the "Study Helps."

The "Study Helps" are found on the back of each picture. They guide the pupil in an interpretation of the picture. They capture the pupil's interest and imagination, and challenge him to use the picture as an aid in his geographic thinking. Each "Study Help" consists of: (a) study questions, (b) information paragraph, (c) vocabulary building, (d) game or puzzle.

Study questions (see I, p. 99). The questions are so stated that the pupil must actively use the picture. The first questions seek a recognition of facts. Whenever possible, the questions call for the simple geographical inferences as to relationships.

Sometimes the questions can be answered only by referring to other pictures, maps, or graphs in the same unit set. For example: general landscape scenes may be followed by close-up or detailed views of some specific object in the landscape.

Game or puzzle (see IV, p. 100). The game or puzzle is used as a check-up on the ideas obtained from the picture. Playing the game or solving the puzzle is a pleasant challenge. Several types of games have been used in unit sets of pictures. Among them are: (a) The "False or True" Game; (b) The Puzzle, in which correct words must be chosen (multiple choice type); (c) The "Fill-in" Game, in which sentences must be completed (completion type).

Vocabulary building (see III, p. 99). Each picture helps develop the geographical vocabulary. As the child finds new things in the picture, new words and terms are thus developed. In this way the geographical words are made to have meaning.

Paragraph of information (see II, p. 99). The information paragraph gives the location and, when possible, the season in which the picture was taken. It presents in an explanatory manner the geographic relationships shown in the picture. The location definitely places the picture in its world position. The time or season helps to explain why man is engaged in certain activities. The explanatory description not only tells how man has adjusted his life to the environment, but gives some of the reasons therefore.

Study Helps

Kynderkyk on the Zuider Zee, air view of reclaimed land, windmills and canals. Picture taken in midsummer.

I. Study questions.

1. Find the Zuider Zee on the map in your textbook.
   (a) How does the map indicate that this sea is shallow?
   (b) How does shallow water help explain the extensive reclamation of Zuider Zee bottom?
2. Find the following things in the picture:
   (a) Dikes (the long low walls upon which the windmills have been built).
   (b) Windmills.
   (c) Polders (the reclaimed lowlands).
   (d) Small drainage ditches (the ditches that cross the polders).
   (e) Large drainage ditches (the ditches between polders and dikes and into which small ditches lead).
   (f) Canals (the broad waterways outside of dike wall).
3. Why have dikes been built around the low fields?
4. Why are polders crossed by drainage ditches?
5. What is the work of the windmills?
6. Why are windmills kept constantly at work?
7. Why are canals an important part of the drainage system? How do they get their water?
8. Why are many of the polders suitable only for grass?

II. Information paragraph.

A dike, 20 miles long, now completely separates the Zuider Zee and the North Sea. This dike was completed May 28, 1932. Shut off from the North Sea, much of the Zuider Zee bottom can now be reclaimed. One polder, the Northwest, has been completed. By 1950, it is hoped that the Northeast, the Southeast, and the Southwest polders will be ready.

Land has been reclaimed by building a strong wall or dike and pumping the water out of the area enclosed.

In a country as rainy as the Netherlands, the diked land would soon be under water again were it not for drainage ditches and pumps. Small drainage ditches cross the land; water drains into these ditches. These ditches connect with a large ditch next the dike. The water from the small ditches moves into the large one. The windmills on the dike pump the water from the large ditch into the canal on the other side. From the canal the water is finally lifted into a river, or into the sea at low tide.

III. Vocabulary building.

In order to talk about the picture, the following words must be understood. Can you use them correctly?

canal	windmill
dike	reclaimed land
polder	drainage ditch

IV. "Fill-in" game. (There are as many dots as letters in the words to be supplied.)[11]

The ... land has been reclaimed from the .... In order to reclaim such land, a .... is built. The ..... is then pumped out. ..... pump much of this ..... In such a low flat country ..... are strong enough to turn the great arms of the ..... When finally, the water has been pumped out, the flat ... bottom can be seen.

The land is ... as well as flat. In a country of .... rain, such land would again be under water, were it not for ..... ditches, and ..... The water drains into the ..... ditches. From there it moves into the ..... ditch. The ditch is next the ..... The windmills on the .... pump the ..... from the large ..... into the ..... The canal carries the water to the .... Many polders are too wet for ..... On that account they are green with ..... This ..... is fine food for ..... cows.

Lantern Slides as Aids to Learning

The slide as an aid. The advantage of the lantern slide is that it places before a large class a clear picture upon which the attention of all the pupils is centered. It has the value of the small picture plus the advantage of giving to the entire group simultaneously the important worth-while experiences that are essential. The slide is a very effective and economical method of presentation and may be used in many subjects.

The cost. The cost of the apparatus is relatively small, as a good projector for lantern slides can be purchased for less than fifty dollars. The room need be only semi-dark and the electric connections necessary are found in nearly every well-equipped schoolroom. The most essential item is the slide. Slides must be properly classified and cared for. If the slides are arranged in small units, i.e., horses, cattle, corn, wheat, cotton, Congo, Egypt, etc., as suggested in the school curriculum, it aids the teacher in their use. If each unit is placed in a small box with the appropriate teaching suggestions, then the slides become a teaching tool. Small boxes can be purchased or made in uniform sizes by the school shop.

Many local pictures should be made into slides. Slides can be made from the original negative of any picture for twenty cents. Slides made by commercial companies can be purchased

[11] Malucky, Frances, "The Mounted Picture as an Aid in Geography." *Educational Screen,* September, 1932.

for about forty cents each. The slide is so convenient and so cheap as compared with large charts, that its use should be almost universal. In the purchase of slides it is wise to take only those that make a *distinct unit* and are a definite part of the school curriculum.

Use of slides in instruction. The wise teacher will select a few slides about which can be grouped the basic ideas of each lesson. The teacher should not use the lecture method of presentation in the elementary grades but should guide the pupils in the use of the picture so that they obtain ideas of geographic value. The visual introduction to a lesson is recommended in many courses of study and it has proved its value, especially when classes are large and individual equipment is scarce.

The lantern may be used to present a picture, a diagram, a map, or a test in typed or printed form. The slide may be projected on tagboard or the blackboard and then copied in outline for later use. Many maps essential to the study can be easily and quickly made in this way. For a long time the lantern slide has been a more or less neglected tool. In this day of large classes and less equipment, it is worthy of recognition. Lantern slides should be more generally used. Their purchase is recommended, however, only after careful selection.[12]

Motion Pictures

The moving picture gives many school subjects a reality that is more impressive to the pupils than educators are yet aware. Its possibilities for providing instruction and experience make it a super tool to aid learning. The real use of the motion picture for instruction has hardly begun. It has been reported by Koon[13] that less than 10 per cent of the schools use films and of these a very large proportion used entertainment films in an incidental manner. The 35mm film has been too expensive and cumbersome for class instruction. The 16mm film brings all that is essential at a low cost and in a very convenient form. The British

[12] Abrams, A. W., "Standards for the Selection of Pictures." *New York State Education*, 19:281-283 (December, 1931).

[13] Koon, Cline M., and others, *Motion Pictures in Education in the United States*. University of Chicago Press, 1934.

Commission to study the films believes that "only the Bible and the Koran have a larger circulation than the latest films from Los Angeles." These findings should certainly stir the educator to try this tool which can give such vivid experiences to all types of pupils in practically all subjects.

The necessary equipment for the silent motion picture. The *silent* motion picture is recommended at present for ordinary class instruction as there exists ample material at low cost. The 16mm is the only size recommended for class instruction and its maximum cost is $20.00 per reel of 400 feet.

Every community should have a library of 16mm motion films which are readily available to all the schools and citizens. Most of the states have a central library at the state university, the state department of public instruction, or the local museum. These supply subjects for the cost of transportation. These sources are hardly adequate and each large city or county should have its own film library. It may seem a wild dream but in time film libraries will be part of each local educational system.

In some school systems, 16mm films have been used in 200 showings and the films are still good. This makes the cost very low, about ten cents per showing. It is cheaper to own a series of films than to rent them.

The 16mm projector varies in price from a toy at $25.00 to $150.00 for the standard high grade projector. Some of these machines will project a good picture in the auditorium as well as in the classroom, but the latter place is where they should be used.

Motion picture technique in learning. The techniques to be employed in presenting ideas through the medium of the motion pictures are few and easily mastered by the regular teacher. It is essential for the teacher to know what is in the film before it is used with the class. Lack of such preparation often brings to the class material not suitable and unrelated to the lesson. Films are commonly accompanied by teaching guides, which should be studied so that the teacher can anticipate some of the ideas that the films show.

The amount of the film which should be shown depends upon

the class. Sometimes it is better to show a portion and let the class discuss it; then reshow it to verify and clarify some points of discussion. For a class to witness the showing of a film without comment or follow-up discussion is a lost opportunity. It is sometimes best to show a motion picture several times. Many studies have been made regarding the class use of the motion picture.[14] The teacher should study these various ideas as a basis for the development of her method.

Sources of 16mm educational motion pictures. The supply of narrow width (16mm) film is increasing very rapidly and the cost is moderate. The new machines are safe and easy to handle. In investigating sources of educational films,[15] one will find that nearly all of the subjects that were once on the 35mm film can now be procured in the narrow width. Also, many of the famous features may be secured in the narrow width.

The best guides to the narrow width films made in this country are the *Directory of 16mm Film Sources*, published by the Victor Animatograph Corporation of Davenport, Iowa, and *1000 and One Films*, published by the Educational Screen, Inc., Chicago. These guides include a vast number of subjects and all of the pertinent information regarding size, sound, cost, producer, and distributor; also advertising or "free" films and films of an educational and religious character. It is easy for the teacher to consult the index and find the films that may be procured for any subject. It is very essential, however, that the teacher use good judgment in the choice of film material for a lesson. As a general rule it is wise to exclude films which are direct advertising propaganda.

In choosing educational films, much help may be obtained by using the catalogs from sources indicated on the following list:

American Museum of Natural History, 77th Street and Central Park West, New York, N. Y. (250 films, 35mm and 16mm, for sale or rent.)

Eastman Teaching Films, Rochester, N. Y. (140 films, 16mm, for sale.)

Erpi Picture Consultants, 250 West 57th Street, New York, N. Y. (63 subjects, 35mm and 16mm, for sale or rent.)

[14] See Appendix, p. 188.

[15] For additional guides to sources of educational films, see Appendix, pp. 188-189.

U. S. Department of Agriculture, Washington, D. C. (265 films, mostly 35mm, some 16mm, for sale or rent.)
University Film Foundation, Cambridge, Mass. (24 films in various subjects, 35mm and 16mm, for sale.)
University of Chicago Press, 5750 Ellis Ave., Chicago, Ill. (Science films, 35mm and 16mm, for sale.)
Yale University Press Film Service, 386 Fourth Avenue, New York, N. Y. (Chronicles of America Photoplays in 35mm and 16mm, for sale or rent.)

It is desirable to obtain full information from the various departments of the Government regarding 16mm films which can be borrowed or purchased. There are many films issued by the Department of Agriculture that are excellent for ideas concerning agriculture, forestry, wild life, conservation, and highway construction. The Forestry Department has excellent films of our national forest resources. In those schools where commerce and trade are important studies, the Department of Commerce has material that will be very useful. In all cases, when applying to any department of the Government, ask for its catalog of available films.

Films That Are Widely Used

In the following lists are the names of films that have been made definite parts of courses of study. Each film has been used as a part of a large library and its cost has been less than ten cents per showing. These films are recommended after very extensive use in the classroom. All the subjects listed can be located as to price, producer, and distributor by consulting *1000 and One Films.*[16]

History. To history the motion picture film brings a revelation of the deeds, customs, and methods of ancient and modern civilization. The motion picture presents such materials in a manner impossible for any printed text. Dr. D. C. Knowlton's[17] extensive experiments with historical films in the classroom showed that the photoplays brought valuable teaching material to the pupil.

[16] See Appendix, p. 188.
[17] Knowlton, E. C., and Tilton, J. W., *Motion Pictures in History Teaching.* Yale University Press, 1929.

TITLES OF FILM HISTORY LESSONS

Abraham Lincoln
Alexander Hamilton
Benjamin Franklin
Boone Trail
Chivalry, In the Days of
Christopher Columbus
Daniel Boone
Declaration of Independence
Dixie
Eve of Revolution
Frontier Woman
Gateway to the West
George Washington
Jamestown
Life of George Washington
Oregon Country
Overland to California
Peter Stuyvesant
Pilgrims
Pueblo Indians
Puritans
Theodore Roosevelt
Vincennes
Wolfe and Montcalm
Yorktown

Elementary science. The motion picture in elementary science offers opportunities for observation and demonstration, and otherwise provides many experiences of interest and value to the elementary science pupil.

TITLES OF FILM ELEMENTARY SCIENCE LESSONS[18]

Anthropoid Apes
Ants
Atmospheric Pressure
Automobile
Beaver, American
Bird Homes
California Alligator Farm
Electric Bell
Electric Power in Appalachians
Fly, The
Fly's Eye
Forest and Water
Forest, Conquest of the
Forest Ranger, A Day with a
Frog, The
Gas Engine
Heat, Conduction of
Honey Bee
Horse, The
Hot Air Heating
How a Telephone Talks
India Cobra and Its Enemy, the Mongoose
Insect Mimicry and Song
Lenses
Life of a Spider
Lumbering in the North Woods
Luther Burbank
Magnetism
Milk as a Food
Mosquito
New World Cat Animals
Prairie Dog and Woodchuck
Primitive Mammals
Rocky Mountain Wild Animals
Samia Cecropia Moth
Seashore Animals
Sewage Disposal
Silk Worm
Tree to Newspaper
Water Cycle
Water Power
Water Power of New York
Water Purifying
Water Supply of a Great City

[18] In silent 16mm.

General science. In the field of general science, motion pictures are valuable as they may be made to replace the demonstrations which are so essential in illustrating the various laws and principles. It is clear to those familiar with the film field that only a partial list of the excellent science films can be presented here. It is desirable as a guide to other teachers to learn that this list is made up of the films which have been widely used.

TITLES OF FILM GENERAL SCIENCE LESSONS[19]

Air, Compressed
Atmospheric Pressure
Carburetor
Electric Bell
Gas Engine
Gas Engine, Four-stroke Cycle
Heat and Light from Electricity
Heat, Conduction of
Hot Air Heating
How a Telephone Talks
Lenses
Light Waves
Microscope, Beyond the
Refrigeration
Revelations
Sewage Disposal
Simple Machines
Sound Waves
Steam Power
Telephone, Wireless
Thomas Edison
Water Cycle
Water Power
Water Purifying
Water Supply of a Great City
Water Supply of New York

Geography. The motion picture is of such importance in imparting geographical experiences that some of the educational values are listed as follows:

1. Geography is preëminently a study of human adjustment to natural environment. The moving picture is invaluable in this subject as it shows man at work in a variety of environments and under diverse conditions. Mining, lumbering, farming, or manufacturing are a few of the activities depicted in a moving continuity.
2. Physical phenomena, difficult to comprehend when unseen, become vivid in the motion picture. Thus the flood, the volcano, the flow of lava, the eclipse, wave action, and wind effects become realities through the motion picture.
3. Map construction and use are real and vital in the animated map. During the World War the motion picture taught the construction and reading of the contour map.
4. The motion picture animates the map, the sketch, and the block diagram which make clear each stage in the development of earth forms.
5. Motion pictures make available local geographic studies for school use.

[19] In 16mm.

6. For those phases of geography which require pictured activity for clear understanding, the motion picture is as essential as the map, the text, the specimen, or still picture.

TITLES OF FILM GEOGRAPHY LESSONS

Alaska
Alaskan Wild Game
Art of Spinning and Weaving
Automobile
Banana
Bedouins of the Sahara
Belgium
Boone Trail
Canada's Metropolis (Ottawa)
Carburetor
Catching Big Fish in Pacific Waters
Cattle Ranching
Central America
Coal, Anthracite
Coal, Bituminous
Coffee
Coral
Cotton
Cotton Goods
Crude Oil
Dairying
Date Palm
Devil Fish
Egypt, Daily Life
Egypt, Pyramids
England
Flax to Linen
Forest, Conquest of the
Forest Fires in Canada
France, Paris
Glacier Park
Grand Canyon of Colorado
Hawaiian Islands
Holland
Iron and Steel
Iron Ore to Pig Iron
Irrigation
Italy, Canals, Venice
Land Transportation
Leather Manufacture
Limestone and Marble
Lumbering in Pacific Northwest
Lumbering in the North Woods
Meat Packing
Mexico
Milk as a Food
Milk-giving Animals
Miracle of Corn
Mt. Rainier
Mohawk Valley
New England Fisheries
New Orleans
New York City
Niagara Falls
Niagara the Glorious
Oil Refining
Orange
Oregon Country
Overland to California
Panama Canal
Philippine Islands
Pig Iron to Steel
Reforestation of Waste Lands
Rio de Janeiro
Rio Grande
Rubber
Rubber Manufacture
Salmon Fishing
Sand and Clay
Shoes, Manufacture of
Silk
Stones of Venice
Sugar Cane
Sugar Cane and Beet
Sugar Maple
Tea in India
Transportation, Development of
Transportation on Great Lakes
Trapping Big Tuna Fish
Tree to Newspaper
Wheat
Wheat and Flour
Wheat to Bread
Wisconsin Dairies
Yellowstone Park
Yosemite Valley

The sound motion picture in 16mm. The sound motion picture is a vast improvement over the silent picture. It adds more reality to the material and, as a tool for giving experiences, equals or perhaps far exceeds the printed page in importance. It is to be expected that its present high cost will in time be lowered, its work will be perfected, and its use will become general. The small 16mm sound-on-film is the form that will soon occupy an exceedingly important place in many school activities. It is more than a printing press, a piano, a band, or a flag pole, for it will enable a teacher to bring into the school experiences that will be a great influence in shaping the ideas and concepts of pupils. It will be a necessity to schools of the very near future. A good projector costs at present from $375.00 to $600.00. The film is not less than $50.00 per reel. Both the sound projectors and the sound-on-film are not yet made at a low enough cost to insure a wide circulation.[20]

[20] Devereux, F. L., and others, *The Educational Talking Picture.* University of Chicago Press, 1933. The best general guide for the beginner.

Rulon, Phillip J., *The Sound Motion Picture in Science Teaching.* Harvard University Press, 1933.

CHAPTER V

MATERIALS OF INSTRUCTION FOR FINE AND PRACTICAL ARTS

IDA E. SEIDEL

I believe that all progress in art lies in the expression of the experiences, the hopes, the ideals, and the aspirations of our own environment, of our own times, and of our own lives. The past is studied to refine and stimulate creative effort for the expression of the life of the present, not to become a substitute for it.[1]

In considering materials of instruction in the field of fine arts, we will assume that every child has the power to create. Ideas for work usually come from imagination and personal experiences, also from music, reading experiences, and poems. After a snowstorm an entire group may respond beautifully to Robert Frost's "Stopping by Woods on a Snowy Evening." It is best for the child to be left entirely free to express his own feeling in choosing what he contributes.

In shaping his idea, the child considers the elements of the situation in their relation to himself, not in their physical relationship, and expresses his feelings or emotions symbolically rather than by photographic representation of natural objects.

John, in the second grade, was making a picture which he wanted to express, "It is Spring." The sky was a bright yellow, the trees bare, the grass green; there were a few bright flowers, and a very black path through the woods. It was the next day after a hard rain; John was interpreting what he saw. One who has seen the soil in Missouri after a hard rain in the Spring knows it is black and the sky so clear and bright that it may appear to be yellow for all the joy and aliveness it expresses.

Another child had painted a farm scene. The teacher was much disturbed when she observed that he had pictured the man larger than

[1] Bonser, F. G., *Life Needs and Education*. Teachers College, Columbia University, New York, 1932.

the barn and the rooster as large as the man. In the child's analysis these were the most important things, and largeness became a symbol for importance. To stop any further discussion, the child said, "This is my rooster and I painted it." The same point is illustrated by a story told by René d'Harnoncourt. A teacher was touring in rural Mexico. She stopped to watch an old potter decorate his ware. He was painting a huge bird on the vase; around the base were small houses and trees. Said the teacher, "You know the trees and the houses are larger than a bird. That is ridiculous." "Yes," answered the old potter, "but you see this is a painted house, painted trees, and a painted bird, and I don't believe a painted bird could fall through a painted house. Now, do you?"

Creative work is most effective when it is very close to the child's life. The child understands the world only as he lives in it. It is our purpose to provide a variety of experiences which enrich that world so that he gains greater understanding and enjoyment of his environment. His inner self gains in ideas which become a part of his emotional make-up. As the teacher understands this environment in relation to the child, so she can guide him in realizing that he has ideas to express. She is dealing with the emotional and not the intellectual.

The teacher is ever alert to help on technical points when the need arises, but it is the art quality that is stressed. We threaten the child's creativeness when principles and directions are inserted. In the past we have evaluated a "work of art" by asking, first, is there a likeness to a model, or is it photographic; second, is it finished—does it show fine technique? Today we are seeking beyond the subject-interest, the prettiness, and the sentiment for something deeper, as intenseness, joyousness, an inner-self asserting itself. This seeking is not only in painting but in work with clay, metal, textiles, wood, etc.

It is hard to say where "fine arts" leave off and "practical arts" begin, while social studies may run through all. For practical arts are more than manipulative processes. According to Dr. Bonser, the whole subject was first of all head work, secondarily hand work.

Watch children begin a unit of work. They read, take trips, record their findings by illustrations, notes, stories; some may want to paint a mural and others express a desire to "make something," or for further investigation go to the museum. As one

boy expressed it, in the library we read to find out about things, in the museum we see some of the real things or exhibits, and in the art gallery we see it through the eyes of someone else, the artist. The research may be a social situation that produces a poem, a song, a dramatization, or a picture.

In Bonser's words, "The materials of industry—paper and woods and metals and clay and fibers—must be regarded as but media for the expression of life problems with beauty of form and color as an inseparable element in its resolution."

There are, however, certain quite distinctive values served by work in practical arts. To quote Bonser again: "The purpose of practical arts is to develop intelligence and appreciation in all of the children for meeting their life needs in these fields of industries."

Experiments in preserving of foods, inventions of modern conveniences for the home and field, and travel and communication have so changed the social order that the children need the opportunity which practical arts present for getting first-hand experiences of many everyday needs. Some of these values are indicated in the following criteria, by means of which the teacher may be helped to guide the selection by a group or an individual child of a manipulative activity to be undertaken.

Will it help us to understand how an article is made as a basis for judging its quality?

Will it increase the child's appreciation of humanity's achievements in providing better living conditions, i.e., better lighting, water supply, or health facilities?

Will it make something remote or past more real?

Will it increase respect for one's fellow-man?

Will it, through experience in creating something beautiful, help the child to appreciate and select what is good in line or color, as his clothing or furniture?

Will it open up new fields of interest?

Will it develop better care and respect for the tools and materials which are used?

Manipulative processes in any unit of work should not be limited to merely one phase of doing. For instance, in studying how pioneers lived, there are various phases of work that can be going on with the research, such as making candles, soap

from ash lye, or costumes for the play, writing and staging the play; activities around the fireplace—weaving, spinning, or embroidering samplers. For every child to be doing the same thing at the same time, without the child's having a chance to determine what most interests him, or to interpret it in his own way or a way which he has helped his group to plan, is to lose the value and joy from any learning by doing. It becomes merely "busy work."

The child through self-criticism should determine not only whether he has interpreted his idea but also whether he has used the tools or media best suited to his purpose. It is more suitable to make a boat of wood than to model it in clay. Yet one would carve a bowl of wood, make it from clay, or from metal. For bowls are made from all of these.

A child in the elementary school should not be given materials which are too difficult for him to handle, but different materials that are practical, so that he may experiment and thus arrive at his own best selection and way of handling them. This is furthered by group discussion, and the use of fine examples of painting, textiles, printing, or other art products. Wood lends itself to sculpturing as well as to construction of furniture, or other articles of use. The child should know the feel of wood—how it will respond to his tools—and how to develop a technique that will produce feeling in his sculpturing. We should not want to see it sandpapered to absolute smoothness, nor even painted. We might turn to a piece of work done by a Swiss wood-carver and see how, when he dyes his piece, the color becomes a part of the feeling of the wood, not something that covers over that feeling and produces something very different from the feeling that wood gives.

Likewise, we look at architecture. Today the architect and engineer have new materials with which to create—steel, concrete, glass. We are seeing buildings that "glory in their height and reflect power and the intensity of life." No longer are the architect and engineer afraid to let these buildings reach up into the sky, because they have materials that have strength to go high.

It is evident that the range of materials which contribute to fruitful activities in fine and practical arts is very wide. If food, shelter, transportation, clothing, and all the other phases of modern social living are to be apperceived in their elementary aspects as a basis for the understanding and appreciation of our complex social order and the work of those who make it, materials for active experiencing in all these fields are needed. If experience is to be enlarged and interpreted by reading, library books must be selected to this end. If the child is to develop creativity, a variety of potential media for expressive activities are an essential condition of free choice in accord with his purposes, abilities, ideas, and mood.

In the appendix of this volume there is to be found a bibliography selected for its helpfulness and practicable use for children, mainly in the elementary grades, in the several fields of fine and practical arts. In the remaining pages of this article there is given a list of materials which have been found serviceable in the arts work of the schools of Grand Rapids, Michigan. These materials include tools and special equipment, as well as supplies. Though the list is long and varied, it is by no means expensive, since not every child makes use of each type. To be specific, last year the cost of fine and practical arts supplies was 18 cents per pupil.[2]

In the lists that follow, materials, tools necessary for using the materials, and equipment for their care are included, the classification being by types of materials.

Color

Color is best experienced through poster paints and chalks. When the emphasis is put on mixing to find new colors, something very fine can be achieved when poster colors are limited to red, blue, yellow, black, and white. This gives desirable experience in mixing. However, it is well to have a wide range of colors already mixed in the jar, thus giving experience also in selecting. Children work directly with crayons, pencils, charcoal, water colors, inks, clay, colored papers, dye, and colored yarns. To this later is added block printing, wood, oil, etc. Other necessary materials are newsprint paper (very inexpensive), manila paper, water color paper, brushes (#8 water color, varnish, and stencil), printer's ink.

[2] Information furnished by Mr. Leslie A. Butler, Superintendent of Schools, Grand Rapids, Michigan.

Textiles

1. *Weaving.* Textiles are produced in various ways, as by rack and spool weaving, on frames such as the Navajo Indians use, table looms, and floor looms.

Materials used for weaving: craft wool or rug wool in various colors; cotton roving; sea island twine; colored carpet warp; carpet rags, which can be woven as well as yarns if care is taken in cutting them; and jute, which is very inexpensive and dyes beautifully. A four-heddle floor loom can be had at a reasonable price; however, if space is lacking, a table loom is satisfactory and would take up less room than a floor loom. Small looms which can be made by the pupils are very good. Oftentimes in rural communities there may be a floor loom in a home and the owner would be glad to show the children how it works.

2. *Batik.* This is a process of cloth decoration practiced by the Javanese. It is best to use a cold water dye, as Bateeko Dyes, or Sargeants. The wax resist can be applied effectively with a brush, the wax being kept hot in a double boiler, if one does not have a batik Tjanting. A #4 and a #7 bristle brush are also desirable. Cloth suitable for batik work includes unbleached muslin, pongee, and raw silk.

3. *Stencil.* This lends itself to a variety of designs, materials, and purposes. Quick and effective costume decoration can be effected by using poster paints.

Materials needed: stencil knives; stencils, which can be cut from heavy wrapping paper; oil paints or printer's ink; turpentine; flat pans for mixing paints; stencil brushes; coarsely woven cloth, as burlap, linen, linen crash, monks' cloth, also unbleached muslin.

4. *Embroidery.* Yarns, San silk, embroidery floss, cross-stitch canvas, and curtain scrim, which is inexpensive and lends itself to interesting and beautiful decoration for lunch cloths for the classroom.

5. *Block-printing.* Linoleum blocks or linoleum scraps from any store that sells it for floor coverings; a set of tools, for which gouges and stencils knives may be used; a brayer (ink roller); heavy piece of glass; printer's ink; turpentine, and various types of paper as needed for cards, end-sheets, wrapping paper, book-plates, etc.

6. *Dye.* Any good commercial dyes (see *Batik*); plants used for dyes;[3] very interesting designs and color may be achieved by tied and dyed work, which is good for costume, stage settings, etc.; large basins of enamel or copper are desirable for dye in order that material may be moved about easily. Use wooden sticks for stirring.

7. *Costume.*

a. Cloth made from silk, cotton, linen, wool, fiber; tests for adulteration, fastness of color, durability; weaves; patterns. Various mills send out very fine exhibits showing the process from the raw material to a piece of cloth.

[3] The Kent Museum of Grand Rapids, Michigan, has worked out a very satisfactory list, in a pamphlet, *Indian Usage of Plants for Foods, Dyes, and Fibres in the Great Lakes Region.*

b. Clothing. Historical costumes; costumes for puppets, plays, pageants; personal costume, care and cost; lace making.

8. *Textiles for interior decoration.* Tapestries, India prints, hand-blocked linens, cretonnes, etc.

Clay

1. *Equipment.* One 20-gallon jar with lid for ripening clay, one or two 5- or 10-gallon jars with lids; a zinc-lined cupboard for keeping pieces moist while working on them (an old refrigerator is fine); sink; lined or wooden-top table; rolling pins; sieve; spoons; small spade (for getting clay from jars); large mixing bowl (for mixing plaster-of-Paris or slip for poured ware); modeling wheels for table use; potter's wheel, which can be made from an old sewing machine. Outdoor firing can be done effectively if a pottery kiln is not available.

2. *Materials.* Clay, ordered from nearest pottery (see supply house catalogs, or local clay may be tried); plaster-of-Paris for molds; glazes, of which only three or four need be used; a very good one-firing glaze may be obtained; yellow ochre; red clay; white clay may be used as underglaze for Indian pottery; floor wax can be used effectively for waxing Indian designed pottery for waterproofing, instead of turpentine and melted bees' wax.

3. *Other uses of clay illustrated.* Dishes, glass, building materials, and records.

Metal

1. *Equipment.* Ball pein hammers 2 to 4 oz. and 6 oz.; hard wood mallet, 2″ face, 4″ head; files, half-round, square, round; acid core, wire solder on spools for copper, brass, pewter; pliers, flat nose and round nose; C clamps; metal snips; steel wool; soldering iron; ladle for lead.

2. *Materials.* Sheet copper, brass, pewter, German silver, which may be obtained cut to size for bracelets, small trays, and paper knives. Tin cans can also be used very successfully for making various articles, as trays, candle scones, colonial lanterns, etc. Lead is also easy to handle.

Records

1. *Equipment and materials for book-making.* Book-binders' linen or piece of cloth for reënforcing the back; straw board for covers; cover paper, tape, needles, linen thread, paste, which if it is beaten till creamy and has a little glue added, works more satisfactorily. Use a spatula for spreading glue.

2. *Paper making.* (See bibliography, p. 202.) The mold and deckle can be made by children.

3. *Other experiences.* Filing, cataloging (see Chapters III and VII).

Leather

1. *Equipment.* Tracer, leather workers' knife; cutting board, preferably of hard maple; tools for tooling leather, which can be made by pupils; hole punch, revolving belt punch, eyelet-setting tool, snap fasten-

ing tool, wooden mallet, C clamps. Very interesting things can be done with little equipment and no special room.

2. *Materials.* Calfskin for tooling; suede sheepskin, which can be ordered in whole skins or half skins or cut to order; lacing, snaps, zippers, cowhide for belts, rubber cement, eyelets.

Wood

1. *Uses.* Construction, as of scenery, toys, or furniture; carving and sculpturing. The kinds of wood obtainable are determined by your locality. Seconds and mill-ends can be obtained from any local lumber yard. Choose a wood that is soft and has not too much grain, as gum or bass; cypress has rather decided grain. For carving, use bass, chestnut, or a good grade of gum, with some oak or walnut for upper grades.

2. *Equipment.* Work tables, either with vises or on which detachable vises can be used. Tool panel or case, lumber rack, or lumber box.

3. *Tools.* Brace and bits; chisels, ¼", ½", ¾"; C clamps; counter sink; hand drill and points; files, flat and half-round; wood rasp; gouges of various sizes; claw hammers, 6 oz. and 8 oz.; sloyd knives; wooden mallets; mitre box, wood or iron; nail set; oil can; oil stone; planes; smoothing block; pincers; pliers; saws, 10" back, cross-cut, coping, key-hole, and rip; screw driver; try-square 6"-12"; detachable vises.

It is usually with these tools that the greatest carelessness is practiced. If the class realizes that sharp tools work best, that tools are always ready when kept in place, and that tools work much better if handled right, and if a convenient tool rack or case is provided, then a desirable respect for tools is developed. Many good plans for tool racks can be had from local shops or tool catalogs.

Nails: suggested sizes—wire brads, ½" #20, ⅝" #20, ¾" #18, 1" #17, 1¼" #15, 1¾" #15, 2" #14; common nails, 4d, 6d, 8d.

Paints, etc.: house paint, turpentine, white shellac, alcohol, dye, water stain, floor wax, glue.

Brushes: ash, ¾"; varnish brushes, 1", 1½", 2". If brushes are cleaned with kerosene, then wrapped in paper to keep bristles straight, they last well.

Food

1. *Purposes.* To serve teas or luncheons, to study one food at a time, and to make scientific tests suitable for elementary school.

2. *Equipment.* This list can be very extensive as well as expensive. The school situation should determine what is needed. The following items are suggested as most necessary, where completely equipped cooking laboratories are not afforded:

Cooking utensils: muffin pans, bread tins, and custard cups for baking; large iron frying-pan, two 10-quart kettles with covers, double boiler, four 4-quart sauce pans, six 1-quart sauce pans, tea kettle.

Bowls: large and small for mixing; wooden for chopping.

Cleaning utensils: dishpans, 10-quart and 14-quart; vegetable brushes, metal dishcloths, dishcloths, and towels.

Miscellaneous utensils: can opener, dipper, egg beater, flour sifter, food chopper, measuring cups, large reamer, rolling pin, salt and pepper shakers, sink strainer, wire strainer (colander), knives—bread, butcher, chopping and paring, large fork, spatula, large mixing spoons, wooden spoons, tablespoons, teaspoons, two pitchers, two teapots to be used for tea or cocoa. The table service may be selected as needed. Glass sherbet cups can be used in many ways, especially with a 5″ plate. Also add a few good vases or bowls suitable for flower arrangements for table service. See "Textiles" for suggestions for lunch cloths.

Miscellaneous Materials and Equipment

Work aprons; plenty of clean cloths; unbleached muslin; cheesecloth, burlap; paper cabinets; easels, which may be made inexpensively by pupils; sink with hot and cold water faucets; wringer, clothes rack, electric iron, ironing board; shears; sand paper, #00-#1, emery paper; scouring powder; stove—gas, electric, oil, or wood; a good strong table, which can be used for all kinds of work if special work tables can not be had, and which can be made by a local carpenter.

It is not absolutely necessary to have a specially equipped room for Fine and Practical Arts, but it is desirable, for the materials and tools are always ready for use and much time of the teacher and children is saved. However, if the work must be done in the classroom or in a one-room rural school, it is most convenient to fit up one corner as the work center. Tool racks take up very little room, a lumber box with a lid can take care of the lumber, and a solid work table will serve the purpose for most work. It is very important that equipment be checked, for tools are expensive, but they last a long time if cared for and used in the right way.

CHAPTER VI

ADMINISTRATION AND MANAGEMENT OF MATERIALS

HAROLD J. VAN WESTRIENEN

The primary purpose of public education in this country is to develop the child so that he may be able to live successfully in a democracy. With this purpose in mind, it is essential that every function, agent, and agency of the school organization contribute to this goal. The administration and management of materials of instruction are among the various activities of public school organization which contribute to this end.

FALSE AND TRUE ECONOMY

Without adequate materials the child will be unable to profit sufficiently from the assistance rendered by the teacher, and will not benefit by the physical environment of a well-appointed school building and its equipment. This was not so true in the traditional school where the purposes and methods were developed around the idea of acquisition of knowledge, and where memorization was the principal activity of the child. In the modern progressive school, however, the child takes part in more complex activities in which he purposes, plans, reads, constructs, appraises, generalizes, and interprets his experiences. In this type of school the goal is growth in power to solve purposeful problems, and the child should be provided with appropriate materials with which to engage in drawing, cutting, pasting, constructing, reading, writing, etc. The single textbook and the belief that "all children are equal" will not fulfill the concept of modern education nor meet the needs of the individual child.

Due to the fact that few schools have had a definite policy in regard to supplying materials to pupils, there has always existed

a wide variation in the adequacy with which classroom needs were met. This difference was further accentuated by the degree to which those responsible for the determination of materials varied in their concepts of adequacy.

The coming of the depression has necessitated drastic financial curtailments. This, with the lack of a definite policy, has brought about further inequalities with respect to free materials to such an extent that many children are being deprived of adequate educational advantages. It is, therefore, deemed advisable to make available to those responsible for the administration and management of classroom materials a survey of present practices in representative school systems, along with recommendations as to desirable policies and procedures.

Desiderata and approximate cost. At this point it will be well to consider what is meant by materials of instruction. In general they may be defined as those classroom supplies, lesson sheets, books, and testing materials which are consumed in use, or materials of a less permanent nature than standard classroom equipment. Specifically, they constitute supplies, such as: paper, pencils, pen points, ink, construction paper, modeling clay, soap for carving, crayons, water colors, brushes, wood, nails, drawing paper, glue, tin, solder, wire, rivets, airplane cloth, welding rod, acetylene gas, balsa wood, steel, tool bits, files, cloth, thread, needles, baseball bats, basket balls and soccer balls, food stuffs, magazines, movie films, and hundreds of additional items which are essential for purposeful activity in the classroom. The standardized textbooks for each subject must be supplemented by a variety of other books for ready reference in the classroom, and a well-selected reference library. These supplies should embrace the needs of all subjects and departments, the small and the large class, the city and the rural school system, and all of the various methods and systems of instruction which are in effect in the schools of our country.

With the above factors in mind, it is evident that no definite statement with respect to adequacy for any specific school situation, can be made in this chapter. What would be adequate for one child would not be adequate for another. Nor are the needs

of all school situations alike. In general, it may be said that enough materials should be supplied to furnish the child with every essential for achieving efficiently his purposes in the classroom. Assuming that it would be to the detriment of the child and the developmental processes to provide more than can be used efficiently, adequacy must be construed to mean the optimum amount of materials needed for achieving the purposes of education.

The per-pupil costs of educational materials will vary in different situations. The requirements of all subjects are not the same, all children will not profit by the same course of study, and the costs of similar materials will be affected by changes in the market price and by quantity buying. However, the experience of the writer has been that adequate materials can be provided for every child in the average school system at an average cost not to exceed $5.00 per child for a school year of 40 weeks. In the Hamtramck public schools, where every essential classroom need has been provided free of charge to all pupils from the kindergarten through the senior high school, the total expenditure for approximately 12,000 pupils has not exceeded $50,000.00 per year during the past five or six years. This cost included lesson sheets, stencils, mimeograph ink, textbooks, references, testing materials, and the hundreds of items of consumable materials described above. With the total operating costs per child for an adequate program varying from $70.00 to $100.00 per year, it is apparent that it would be false economy to deprive the child of essential materials as an economy measure. Even in normal times there are many children whose parents cannot afford to provide those materials which are essential. Where the children purchase their materials individually at retail, costs vary from $10.00 to $30.00 per child per year as compared with $5.00 under quantity school buying, representing a distinct saving to the parent and taxpayer. This, coupled with the fact that many children forget to bring materials when needed, presents a strong case for supplying all necessary materials of instruction free of charge to all children in the school system.

Current Practices in Representative Schools

As a means of determining present practices with respect to providing free classroom materials, and to ascertain the extent to which the depression has resulted in the curtailment of essential services, a questionnaire was sent to 144 school superintendents in 20 different states. Schools in all of the recognized size groups were represented. The inquiry form was returned from 63 schools. The tabulated data is presented herewith. The figures do not represent a completely true analysis of current practices, since many of those reporting indicated more than one method for most of the questions. This accounts for the discrepancies in totals. They do, however, present a general picture of administrative techniques.

1. The present policies of boards of education relative to furnishing instructional materials free of charge:

School Division	All supplied free of charge	Part supplied free of charge	None supplied free of charge
Elementary	27	35	3
Junior High	21	33	5
Senior High	17	34	13
Total	65	102	21

2. Judgment of the superintendent as to the adequacy of the materials as now provided:

Factor	Fully adequate	Fairly adequate	Very inadequate
In amount	15	45	4
As to kind	20	41	2
Total	35	86	6

3. Changes in policy as to free materials due to depression:

School division	No change in Amount	No change in Kind	Some curtailment in Amount	Some curtailment in Kind	All free materials discontinued
Elementary	16	23	42	31	0
Junior High	15	23	37	26	0
Senior High	13	21	38	28	0
Total	44	67	117	85	0

4. The following techniques are used to determine the amount and kind of materials furnished free to pupils:

Agent responsible	Kind determined by		Amount determined by	
	Rough estimate	Research	Rough estimate	Research
Board of Education	6	3	6	3
Principal	19	14	14	14
Purchasing Agent	7	6	8	7
Superintendent	25	30	22	25
Subject Teacher	25	14	16	12
Subject Supervisor	11	13	7	12
Teacher Committee	5	6	3	5
Total	98	86	76	78

5. The following techniques are used to determine the amount of money to be spent for free materials:

Agent responsible	Amount based on materials needed	Amount based on arbitrary figure
Board of Education	19	2
School Principal	21	4
Purchasing Agent	13	1
Superintendent	52	7
Subject Teacher	24	1
Subject Supervisor	2	0
Teacher Committee	3	0
Total	134	15

6. Methods used in determining where the material is to be purchased:

Agent responsible	By low bid price	By sample and quality	By direct order without bids
Board of Education	10	19	4
School Principal	1	6	2
Purchasing Agent	16	22	3
Superintendent	16	36	8
Subject Teacher	1	8	2
Subject Supervisor	0	1	0
Teacher Committee	0	0	0
Total	44	92	19

7. The following systems are used in distributing the materials to the teachers in the classrooms:

Delivery of materials direct to teacher by vendor	2
Delivery of materials direct to school office by the vendor and redistributed to the teachers	20
Delivery of materials to central system stockroom by the vendor and redistributed to the schools	47
Pupils obtain materials direct from building stockroom	4
All above plans used at various times	1

8. The following systems are used within the classrooms for placing the materials at the disposal of the pupils:

Pupils help themselves at their own discretion	1
Pupil monitors supply pupils at their request	3
Pupil monitors supply materials on a budget plan	3
Teachers supply materials to pupils on request	23
Teachers supply materials on a budget plan	12
Constant effort by teacher and pupils to use materials efficiently	53
Method left to the discretion of the teacher	1

9. Comparative costs of personnel, materials, and the maintenance of buildings and equipment:

The information supplied in answer to this question was not complete enough to be of any value and had to be omitted.

10. Costs of other operating expenses:

The information sent in reply to this question was likewise too inadequate to be of value.

Summary of Data

1. The policy of the majority of Boards of Education is to provide a portion of materials free of charge to pupils. A slightly smaller number provide all materials free of charge to elementary school students, with a decrease in number providing all materials to junior high and senior high pupils. Only three schools reported that no supplies were furnished elementary pupils, with five in this classification for the junior high, and a total of thirteen who did not supply any materials to senior high pupils.

2. A large majority of schools considered their free materials fairly adequate, a large number being entirely satisfied with the adequacy, and a few stating they were wholly inadequate.

3. The majority of schools reporting indicated that there had been some curtailment of free materials due to the depression. The greatest curtailment was in amount of materials furnished,

with several reporting some change in the kind of materials supplied. A large number of schools reported no change in either kind or amount; no schools reported discontinuing all supplies.

4. The number of schools determining their needs for classroom materials by research and by rough estimate was about evenly divided. In the majority of cases this function was carried on by the superintendent, with the principal, subject-teacher, supervisor, purchasing agent, teacher committee, and Board of Education following in order of frequency. A closer analysis will reveal that in the smaller system the superintendent performs this function or delegates it to a teacher, while in the larger systems the work is carried on by the supervisor.

5. The majority of school budgets for classroom materials are based upon the needs of the school program. The superintendent in most cases makes the decision. The subject-teacher, the school principal, the Board of Education, the purchasing agent, a teacher committee, and the subject-supervisor follow in order of frequency with which they perform this function.

6. In the purchase of materials, quality and suitability appear to be the most important factors, with about fifty per cent of the schools requiring bids. There were also several schools for which items are purchased outright without bids. This function is performed in most cases by the superintendent, with several delegating the work to a purchasing agent. In several others this work is done directly by the Board of Education. The other agents were used for this function in but a few cases.

7. In a majority of school systems, materials are delivered to a central stockroom from which they are redistributed to the various schools, while in a large number of others the vendor delivers directly to the schools.

8. There appears to be a general attempt on the part of both teachers and pupils to use materials as economically as possible, with a wide variety of means used to place the material at the disposal of pupils. In most cases this is done by the teacher, but in others pupil monitors are used. Several schools make use of some plan to budget the amount of materials allowed to pupils, while others leave this to the discretion of the pupils.

Provisions for Accessibility and Free Use

In the remainder of this chapter an attempt is made to present recommendations for the administration and management of materials of instruction in a manner which will assure the greatest benefit to the child. In the preparation of these suggestions, consideration was given to both the large and the small school system, and the emphasis has been placed upon policy and technique rather than upon the presentation of a picture of a comprehensive school organization.

Legislative policy. The first step in establishing an adequate organization for the administration of materials is the adoption of a sound policy by the Board of Education. This policy must be one which will take into consideration the best interests of the child. An example of an approved legislative policy is the one adopted by the Board of Education of Hamtramck, Michigan:

> The policy of the Board of Education shall be to consider all supplies, books, and equipment (movable furniture) as *essential agencies* contributing directly to the success of the instructional process. Their selection and appraisal shall therefore be made in terms of their contribution.
>
> The standards of quality and the standards of distribution for supplies, books, and equipment shall be determined by the Superintendent of Schools upon the results of research and experimentation.
>
> The standards developed shall be presented to the Board of Education in the same manner as other means and, after approval, shall be operative until results of further research make change advisable.
>
> It shall be the policy of the Board of Education to furnish free of charge, to all students, all essential supplies, books, and equipment.[1]

This policy will apply equally well to the small and the large school system, and may be administered by a line and staff organization, as shown in the diagram (p. 126).

In the small school organization the superintendent will assume personal responsibility for the determination of quality and quantity of materials recommended to the Board for approval, will carry on negotiations with the vendors, and will personally supervise the distribution of the materials to the schools. In the large school system these functions will be delegated to a staff or staffs of subordinates. A usual approved procedure is

[1] *The Public School Code of the Hamtramck, Michigan, Public Schools* (2d ed.), 1928.

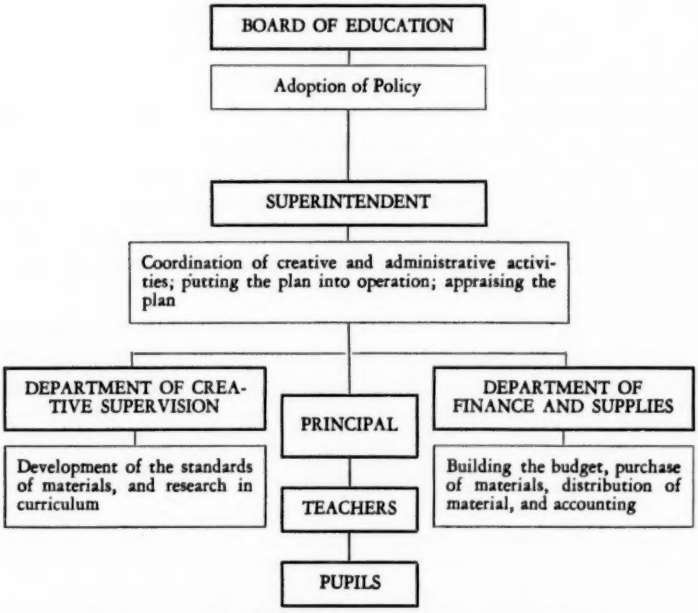

BOARD OF EDUCATION
Adoption of Policy
SUPERINTENDENT
Coordination of creative and administrative activities; putting the plan into operation; appraising the plan
DEPARTMENT OF CREATIVE SUPERVISION
Development of the standards of materials, and research in curriculum
PRINCIPAL
TEACHERS
PUPILS
DEPARTMENT OF FINANCE AND SUPPLIES
Building the budget, purchase of materials, distribution of material, and accounting

DIAGRAM 1.—The Organization of the Service of Materials.

to divide the work between a staff of instructional supervisors, who will determine what is required to carry on the instructional program, and a staff of clerks and stock agents, under the direction of a director of finance, who will prepare the budget, issue bid requests, recommend vendors, and deliver materials to the schools. The function and the techniques would be the same in both situations, the only difference being in the number of agents to whom the various staff activities are delegated. In both the small and large system the principal and teachers constitute the line officers.

The determination of need and standardization. As was indicated in the previous paragraph, the work of determining the amount and kind of materials required for each subject in the curriculum is a staff function. If delegated to the line organization of teachers and principals, the needs will not be properly coordinated for the system as a whole. If the work is centered in

the department responsible for the development of courses of study and lesson material, the needs can be more accurately estimated through research activity. Necessarily the agents using the materials must have the opportunity to submit evidence as to adequacy, but the recommendations which go to the superintendent should be unified, and not submitted independently from each school or classroom. The specific techniques used by the agents responsible for this activity are taken up in detail in another chapter, so are discussed here merely as to policy. However, brief mention must be made of the manner in which the standard distributions are submitted, since they are necessary for an adequate presentation of the balance of this report.

The more common procedure for preparing estimates is to request each teacher to submit a list of materials required for the following year. This method is too highly subjective to be practical. The teacher must guess as to what he needs, and most frequently he fails to give adequate specifications as to size, quality, and other pertinent criteria for satisfactory purchase. It is necessary, therefore, to make provision for accurate determination of requirements, and assurance that the materials purchased will meet the instructional needs.

Purchasing Activities and Administration of Materials

The *first step* is to ascertain the number of pupils who will be enrolled in each class or subject for each grade. By computing the amount of materials from the standard distribution on a per-pupil basis, it will be possible to determine just what is required without the hazard of a guess or rough estimate.

The *second step* is to tabulate the total requirements for each item, deduct the inventory, and submit the computed amount to vendors on a bid form. This will permit purchasing in larger amounts so that advantage may be taken of quantity buying. After the bids have been compiled, they are reported to the Board of Education by the superintendent with recommendations for purchasing. After approval has been given, purchase orders are sent to vendors quoting the lowest prices for approved materials.

The *third step* is to check and inspect the materials as they are delivered to the central stockroom, to assure that quality and quantity are in conformity with specifications. Where delivery is made directly to the school or to the classroom, there is greater possibility of improper inspection. When the materials have been received in the central stockroom and approved, they are delivered to the schools in terms of requisitions which have been previously checked against the standard distributions to assure that no more is delivered than is specified on the distributions.

The *fourth* and very important step is the administration of materials within the classroom. This matter requires careful management on the part of the teacher to assure that all children receive the amount which is required for the particular activity in which they are engaged. If the matter is left entirely to the discretion of the child, considerable waste will result, but it is recommended that the actual administration be delegated to the students under teacher guidance. The teacher has many more important functions to perform in the way of stimulation, assistance, and interpretation, which would be neglected if her time were given over to passing out supplies and textbooks. This activity can better be delegated to the students, but some plan of budgeting should be developed to assure proper use. If this activity is to have any educational benefits to the child, he should be given the opportunity to participate in planning the activity rather than have it autocratically imposed upon him. After the plan has been adopted by the class, either they or the teacher can delegate the actual work of distribution to members of the class. If the plan calls for a system of accounting, it will provide a valuable activity which will facilitate the work in arithmetic.

Conclusion. The recommendations which have been presented are but suggestive and will require the working out of many details, through the coöperative efforts of all agents of the school system, in order to function properly. They represent desirable policies and suggest techniques which if put into effect will insure a more effective organization and management of materials than is practiced generally, and will eliminate the present loss in instructional efficiency which has resulted from a lack of policy.

CHAPTER VII

SELECTION AND ORGANIZATION OF MATERIALS OF INSTRUCTION

MILDRED ENGLISH AND FLORENCE B. STRATEMEYER

"Materials of instruction" as used in this section of the Yearbook refers to materials used by the teacher and children in the work of classroom instruction. Chapter III, prepared by Miss Helen Heyl, deals with books and their care and use in the instructional program. Chapter II, prepared by Dr. Fannie Dunn, deals with experiences as materials of instruction and with environmental materials and resources. This chapter, therefore, will discuss other materials which may be used in the work of the school—those referred to by librarians as "ephemeral," "fugitive," and "illustrative." It is not within the scope of this chapter to consider materials in the special fields, such as music, art, industrial arts, and science. A discussion of materials in these fields may well be left to the specialist, and the supervisor or teacher will do well to consult the specialist for help in these fields.[1]

TYPES OF MATERIAL

There is being made available for schools an increasing amount of illustrative material—pamphlets, bulletins, pictures, maps, charts, and the like. It is important for those interested in the program of instruction to develop a sensitivity to materials that may be obtained to supplement the textbook. The ability to choose wisely and to use effectively such material must be directed and developed.

[1] See a series of committee reports on the materials for classrooms of various types in the Coöperative Group Plan, *Educational Method*, Volume X, October, 1930, to March, 1931. Reprinted by Teachers College, Bureau of Publications.

Types of material which may be used to supplement the text and which may be secured free or at small cost include:

1. *Bulletins, pamphlets, catalogs.* Many book catalogs give descriptions of books, information about authors and illustrators, and illustrations that will be interesting and stimulating for children's use. Such catalogs often give an acquaintance with books and writers which may not be acquired in any other way. Children enjoy looking over book catalogs, selecting books for Christmas gifts, or for the library order. Seed, picture, and toy catalogs may be used in the same way.

Travel bulletins add interest to work in geography and are valuable in developing units of work having to do with industries, with different sections of the United States, and with foreign countries.

Many bulletins published by departments of state and national government and by state universities will be found helpful in classroom work.

It is undesirable to have every pupil write for the same material or for each succeeding class to collect materials that can be preserved from year to year as a part of the permanent school collection of materials. While pupils may write for some of the material as it is needed, much of the information will have to be located and often secured before the group begins the unit of work, in order to prevent too much loss of time. Requests for materials should be written on school stationery and should be approved by the teacher. Children should write for definite information or material, not make a general request for information or bulletins.

2. *Magazines, papers* (state, local, Sunday, foreign). These offer rich material for instructional use. Feature articles, accounts of special exhibits, reviews of books, plays, and movies, radio programs, and the like, may be clipped and used for the bulletin board and later for the files, as a contribution to the material under some special unit or topic used in the curriculum of the school.

3. *Posters of railroad and travel bureaus, maps, and charts.* These furnish graphic and often colorful illustrative materials. Maps are being used in many ways to show places of historic interest, sports and recreation centers, flowers and herbs grown in different localities, weather conditions, topographic surveys. Graphs may be obtained showing production and distribution of products, market analyses, trends in economic life. These are valuable as source materials, presenting the information in a manner which is not possible in the textbook.

4. *Prints and pictures.* Copies of famous pictures, colorful prints from various foreign countries, pictures from magazines, the picture supplement of the Sunday papers, advertisements, kodak pictures, postcard views of points of historic and geographic interest, of costumes in different lands, and of fairy tales and nursery rhymes have a very real place among instructional materials.

5. *Tapestries and wall hangings.* Prints, pictorial cretonnes, which may be bought by the yard, hemmed and mounted, add a note of color

to the classroom and furnish illustrative material for transportation and other units of work.

6. *Exhibits.* Silk, rubber, and other manufactured products; collections of minerals, stamps, pictures, books and the like, add vividness and reality to the instructional program.

7. *Properties and costumes.* Such items used in plays and programs may go into the properties' box of the school, the materials to be used as need arises in school programs and entertainments.

8. *Programs.* Radio, theatre, lecture, exhibit, museum, garden club, book club programs offer suggestions.

9. *Reviews* of plays, movies, and books, furnish current information.

10. *Biographical sketches.* Information about the lives of authors, writers, and actors may be obtained from such material.

11. *Mimeographed units of work* and *teacher-and-pupil-made helps.* Such materials meet immediate needs.

12. *Annotated bibliographies of source materials* and *of available illustrative materials.* These are materials which should be preserved for reference.

Work books and self-directive materials for pupils of a commercial nature will not be treated in this chapter. This material furnishes a real problem to supervisors and teachers and should be studied with a view to setting up criteria for judging the worth of the material.

Criteria to Guide in Selection and Organization of Materials

As suggested in the preceding paragraphs, there is growing at a rapidly accelerating rate a vast body of materials of instruction —a wide range of books, magazines, pamphlets, pictures, newspapers, maps, charts, exhibits, records, and the like—which suggest potential "service tools" in the teaching-learning process. This already vast body of fact and opinion is forcing choice and demanding increasingly vigorous selection for use. Contingent upon this type of growth, the teacher's problem in the use of these materials has become two-fold. The very mass of material conditions the first problem, namely, that of *selection.* Definite attention should be given to this selective process if arbitrary choice is to be replaced by selection in terms of recognized factors conditioning effective and fruitful learning. Parallel with this problem is a second, which is present to the teacher who deals with meagre and perhaps prescribed materials as well as to one

working with the materials which most fully exemplify outstanding practices. It is the age-old problem of the refinement and improvement of the materials themselves. It suggests both the *enrichment* of materials for given pupil groups and their *refinement through use.* Both problems are contingent upon (1) a knowledge of and acquaintance with available sources of material, and (2) the ability to evaluate these materials in terms of stated criteria or standards. Both problems are a responsibility of teacher and pupil, working both independently and coöperatively. Pupil growth in selecting *from among* materials (proper use of textbooks and other reference materials and an appreciative understanding of which sources to select) is a fundamental type of experiencing to be included in the curriculum.

It is the purpose of this chapter to consider criteria or standards to be used as guides by teacher and pupils in the selection and use of materials in carrying forward activities. Before giving attention to specific criteria, it must be recognized that any set of standards governing selection are concerned with (1) the educational point of view held, (2) the background, abilities, needs, interests, and (3) the goals or purposes of that group. The teacher is concerned equally with each of the factors as she selects instructional material. The bases of selection used by the children are concerned chiefly with the goals to be accomplished and, in some situations, with the second factor, namely, how far they have progressed in the direction of the goals.

The following theses are submitted as representing, in essential, the educational principles which have served as guides in the development of the Yearbook. As such they form the background against which to evaluate the criteria outlined in this chapter.

1. An understanding of the nature of the emerging social order with its emphasis upon new group relationships and new leisure becomes the first criterion in the selection and use of materials.
2. This new sharing in the social consciousness is interpreted to mean that form of thinking and doing which is a combination of:
   a. *Independent action,* based upon the recognition of the efforts of others but not interfering with such efforts.
   b. *Active coöperation* and the persistent lending of energy to the further differentiation and integration of social forces synonymous with progress.

3. The changing social and economic order suggests a program of education directed not merely toward the intellectual acquisition of "subject matter" but toward those controls which maintain strength when new situations arise—the development of ability for independent thinking and resourcefulness in meeting problems which are new and only a few of which can be foreseen.
4. Such power in resourcefulness and independent thinking is not given —it comes into being and grows only through exercise.
5. In developing such power, it is the peculiar privilege of the teacher to assist in selecting "the influences which shall affect the learner and to assist him in properly responding to these influences."[1]

This conception means growth in creative capacity, ability for adjustment, efficiency in self-direction and enjoyment of life's activities by the help of all that one can utilize from race experience. It does not mean merely the intellectual acquisition of "subject matter." Quite as emphatically it is not wanting in intensity of effort nor is it scornful of scholarship. It is a setting which recognizes a major purpose of education to be the development of essential principles, understandings, and appreciations which orient us in choosing and carrying through our purposes in ways that are social and satisfying; these *controls,* based upon facts and experiences (not merely a mass of facts, however well organized), maintain strength when new situations arise. It suggests an environment which demands concrete, problem-solving, laboratory materials and which encourages investigation and self-expressive activity through which pupils may acquire power to meet new situations and give expression to ideas and emotions.

It suggests the organization of materials into such form that the learners are enabled to experience social forces rather than simply to learn something about them—the provision of an environment which affords an atmosphere of study and "suggests work rather than talk." It makes clear that the program is one of activities rather than one of memorization and formal recitation. Pupils are learning social efficiency by being socially efficient.

The desired activities, including investigation, problem solving, comparison, judging, conferring with the teacher and with other

[1] Dewey, John, *My Pedagogic Creed,* Article II.

pupils, require a new use of old materials as well as the use of many previously unused materials. Rather than being used to create interest only, maps, charts, the bulletin board recording current happenings, cartoons, poems, songs, fragments of inscribed clay or stone, source extracts, and the like, are fundamental and necessary tools to problem solving.

It is a point of view which suggests as a *first criterion, the selection of instructional materials in terms of their bearing upon experiences or problems being considered by the group.* The agreed-upon goals in terms of the problem or situation at hand become the focal point of selection. It means material (1) selected to give fuller meaning to daily experiences, and (2) selected because it contributes naturally to the development of the experience or situation without imposing that which is unrelated.

The goals as thought of by the teacher holding the educational point of view just suggested demand that a *second criterion* be coupled with the first standard: *the selection of material to lead to an understanding of fundamental concepts, generalizations, and principles—controls based upon facts and experiences which give power to meet new situations.* It means the selection and use of instructional materials in a way to assist the learner to see relationships among facts, to use materials in the solution of problems, to apply principles arrived at inductively to new data and new situations. The "handy bag of facts" without understanding and recognition of relationships is of little worth in solving new and different problems. Contrariwise, the real understanding of such a basic idea or generalization as "True freedom is based upon order and organization" is fundamental both in the school situation and in civic and social activities. Likewise, a recognition of such a principle as "Species have survived only through adaptation to environmental conditions," derived from watching bird migrations and the storing of the winter food supply by the squirrel, helps in understanding the hibernation of bears, the habits of the Eskimos, and the plans and methods of the Byrd expedition. It is a criterion which is directed toward the selection and use of materials in a way to help the learner to

push his thinking forward and to open doors ahead. The following questions may serve as more specific checks in applying the second criterion:

1. Are the materials such that meaning, significance, and understanding of the use of principles and processes are emphasized?
2. Are the materials so organized as to point to relationships between problems and processes and give opportunity for selection and application of processes appropriate to situations?
3. Does the material take cognizance of the need for (a) exact repetition of materials for mastery, (b) repetition of essential meanings in new situations to functionally exercise recall, and (c) repetition of meanings in new situations for the purpose of enlarging the concept?

The *third criterion* places emphasis upon children as the active agents in the learning process. The abilities as well as the interests and needs of the pupil group become the starting point and indicate the direction of movement toward the achievement of the goals set up. Just as two points determine a straight line, every experience selected for the curriculum has two points of reference—the goals to be achieved and the present conditioning factors of the learner. Only as we consider the two in relationship do we have any sound basis in going forward. Thus our *third criterion* may be stated: *selection of materials within the range of understanding of the group—selection from real situations on the level of the child's understanding and in accord with pupil interests and needs.* It is a criterion which leads one, when evaluating materials, to ask such questions as:

1. Do the materials present real situations as they actually occur and in a manner realistic to children?
2. Is the material within the experience and understanding of the children at the given stage of development?
3. Are the pupils prepared by previous experience to react appreciatively and understandingly to it?
4. Is it of a degree of difficulty that enlists the children's abilities fully and yet provides for at least a measure of success?
   a. Does it provide for the principle of increasing difficulty?
   b. Do the children have the background necessary to carry it out with satisfaction?
5. Is it sufficiently flexible to permit of adaptation to changing circumstances—to take into account the environmental conditions of the children?

For the values of the vividness and the reality of materials for the given pupil group, we are just beginning to recognize the possibilities of the use of the excursion and the value of first-hand contact with persons and things through attendance upon political discussions, contacts with public welfare agencies, study of the local community and its problems, visits to museums, visits to commercial and manufacturing establishments, and the like. So conceived, much instructional material is found outside of the school building. For many schools the community is essentially the laboratory offering a wealth of direct contacts, as well as such printed materials as reports of city departments, legal and commercial forms, copies of ordinances and ballots, accident and fire-prevention pamphlets and posters, health pamphlets, and other publications.

Another interesting area in this connection is that represented by the increasing tendency to use the various phases of art as means both of presenting materials and as expressions of reactions to and interpretations of ideas and attitudes. Art materials in the hands of pupils may become effective, first, as sources of desired information; second, as stimuli to the learner's own creative powers; and third, as a means of acquaintance with age-old racial activities. Art materials, whatever may be their nature, not only provide data needed in working on problems and afford acquaintance with age-old racial activities, but supply also the visual imagery which the junior high school child is constantly seeking as the vehicle for his own expression. Portraits, contemporary views (including cartoons), reproductions of paintings, imaginary scenes from the professional illustrator, views of historic sites, buildings, models, graphs and diagrams of comparative facts, dramatizations may all be included in the pictorial arts. They suggest a definite relationship between art and the social sciences.

Let us carry this thought a step further to see its possibilities. Information may be the single purpose of a child's careful study of art records. The words of medieval manuscript are beyond his interpretation, but the vellum with its precision of lettering and the illumination which often accompanies the text help him

to reconstruct monastic life as well as the manners and customs of the Middle Ages. Similarly the arts of the carpenter, the spinner, and the iron worker reconstruct colonial life for pupils whose units of study are the traditions upon which some of the present social ideals are founded.

The *fourth criterion* is suggested as a corollary of the third, namely: *the selection and use of materials to provide for individual differences in ability, interest, and need—providing for individual growth within group activity.* This is a criterion which in its implications suggests such questions as:

1. Is the material sufficiently comprehensive to "demand a variety of responses from different children and permit each to go at it and make his contribution in a way which is characteristic of himself?"
2. Is there provision for differentiating experiences for different ability groups?
3. Does the material provide for *continuing* growth and development, suitably graded to the growing needs and widening interests of pupils?
4. Is the manner of presentation clear and understandable to children?
5. Does the language correspond to the reading and speaking vocabulary of the children (non-technical, real, interesting)?
6. Does the material provide for the use of local data?
7. Does the material provide for the utilization of pupils' experiences—the environment used a source of direct interest and approach?

The *fifth criterion* is directly related to the goals set up (see criteria 1 and 2): *the selection and use of materials of instruction to help children in turn to grow in self-direction in the choice and evaluation of materials.* This criterion rests upon the belief that the teacher's place in the educative process is that of a member of the group who, on the basis of larger experience, is a recognized leader, whose function it is (1) to assist in selecting the influences which shall affect the learner and (2) to assist him in properly responding to these influences—responding in a way to develop independent power on the part of the pupil in the selection, evaluation, and judgment of materials.

The fifth criterion suggests several others as corollaries to its best use. *Sixth criterion: the selection of materials noting basic purposes for which the material has been developed and testing its validity in the light of known truths and facts.* There is a rapidly developing body of print materials being issued for

purposes of advertisement or propaganda. It is significant that both teacher and pupil grow in power to test such material for its true worth. Frequently the selection and use of such material means testing the scientific basis of the data presented—*a check on authenticity*. In other cases it means *sensitivity to varied points of view and the continued search for materials to make the several viewpoints available*. In still other situations it is the *recognition of propaganda as propaganda*—a distinguishing of the sensational, the partisan, that based only upon an appeal to the emotions. It means the review of materials, asking such questions as:

1. Are checks made on the claims of an advertisement before using?
2. Are the essential meanings and understandings included so presented as to give accurate and correct information?

The import of this criterion is noted in the area of films, pictures, and slides. Commercial pictures, as well as those appearing daily in newspapers and magazines, furnish a definite fund of material. Pictures in themselves frequently show history in the making and suggest data needed in solving problems. Charts and diagrams can graphically illustrate such topics as the tariff, the fluctuation of railway rates, resources of different sections of the country, immigration and movements of population. Pictures may well tell the history of the development of transportation facilities on land and on sea, or of the changes brought about in agricultural methods. Many other excellent illustrations are available through slides. The more recent explorations in the field of the motion picture make it possible for children to follow in a unique and impressive way the unfolding of a series of related episodes. The dramatic element of historic episodes especially has lent itself to the production of many historical films by commercial companies. Unfortunately, these episodes are not always "filmed" in such a way as to tell the truth.

The fifth criterion suggests also as a corollary *a seventh standard: differentiation in the selection and organization of materials between those having permanent values and those concerned with temporary or passing interests*. Differentiation should be made both in the emphasis given to the contextual idea or ideas and to the manner in which the material is filed (see p. 146).

As an *eighth criterion* it is suggested that *selection should provide for balance and variety in types of material.* This standard is significant by way of (1) acquainting pupils with a wide variety of sources, (2) recognizing basic factors conditioning interest, (3) stimulating new interests through different media, (4) allowing for individual differences, (5) providing stimuli to the learner's own creative powers, and (6) providing for the all-round development of the individual. It is a criterion which raises such questions as:

1. Is the material varied enough to meet the requirements of the activity or experiences—will it contribute to the ideas desired through a variety of avenues?
2. How often and how recently have similar materials been used?
3. Is the material such that it "opens up a new field, raises new questions, arouses a demand for further knowledge, and suggests what to do next on the basis of what has been accomplished and the knowledge thereby gained?"
4. Does it provide for needed recall of past learning experiences (repetition of vital facts when needed)?
5. Does it introduce and emphasize essential elements (eliminating unnecessary, artificial, and forced repetitions)?

Lastly, attention should be given to *selection of materials having appropriate mechanical make-up.* Other things being equal, those materials are to be preferred that rank high as to

1. Clearness and conciseness (vocabulary, sentence structure, style) and interest value.
2. Attractiveness, usableness—suitability of type, form, size, margins, quality and finish of paper, spacings, illustrations, etc.
3. Mechanical durability and suitability.
4. Proper methods of emphasizing important phases of work (i.e. use of italics, illustrations for heightening interest, etc.).
5. Convenience—completeness of table of contents and index, definite page arrangement, etc.; usability under existing conditions.

An abundance of potential material is available for the using. Let it not be said that we are poor in our wealth—poor either in the use of meagre materials or, more significant, poor in the way we use such materials to help children grow in power to envisage desired human relationships and to participate actively in their realization. The criteria serve as guides for (1) the

selection and use of available instructional materials and (2) the development of new and the enrichment of old materials as needed by selected groups. Pupil and teacher should share the work—selecting, organizing, and filing materials, referring to materials, adding new materials—the pupils to push forward experiences and problems in which they have a real interest, the teacher to assist pupils to carry these experiences forward in ways to arrive at desired goals set up.

The Development of a Materials Bureau

The problem of caring for and preserving in usable form materials collected and prepared by teachers and children deserves the best thought of supervisors and directors of instruction. While much of the material described in this chapter can be obtained free, there is some expense attached to writing for it. For a small amount to cover postage and packing other materials of real value may be secured. The value of this type of material should be recognized by the superintendent and a sum should be included in the budget, wherever possible, for the purchase of illustrative and supplementary materials. This can be provided on the basis of a certain sum per pupil, or a given amount can be allotted to the school, to be spent by the staff as material is discovered that will be helpful in the school program.

Materials may be made available also through gifts of parents, interested friends, Parent-Teacher Association, and other groups. Often exhibits of books, pictures, china, and so on are loaned to the school for a period of time when such items will aid in the work of the group at that time.

Where a great amount of material is made available for teacher and group, the value that comes from finding and securing materials to meet a definite need is lost. Supervisors, teachers, and pupils should develop a sensitivity to available materials and should grow in the ability to find or devise materials to meet a definite need as occasion demands.

When the teacher secures the material through her position as teacher in the school and in the name of the school, it should be considered the property of the school and should remain as a

part of the permanent collection of the school. However, when the teacher spends her own money for materials they become her personal property. It is always a temptation for teachers to take with them when they go to another school materials they have collected. Schools are becoming conscious of the need for materials of this kind, and more and more are organizing collections for the individual school. Wherever this is done there will be less need for the teacher's taking materials with her when she moves from one school to another.

The Materials Bureau may take the form of (1) a *Central Bureau* for the system, located in the office of the superintendent or the supervisors, under the direction of a person designated for this work; or (2) a *School or Building Materials Bureau,* developed by the staff of the school, in charge of the school librarian and cared for as a part of the school library, or in charge of a teacher or committee of teachers, in a room provided for the collection; or (3) a *Classroom Bureau or Collection*, developed by the teacher and the group. The children should have a growing interest in collecting materials needed in the work, a feeling of responsibility for keeping the material up-to-date, for preserving it in usable form for the group, and as a contribution to the permanent collection of the school. Children may take turns in being responsible for various phases of the work, such as mounting, indexing, and loaning the material.

Organization and care of materials. Some system of filing is essential if material of this type is to be used to best advantage. A filing cabinet or vertical file will be found very valuable. Such cabinets can be purchased from any office supply house. Where funds are not available the children, under the direction of the teacher, can make cabinets which will serve the purpose nicely. With very young children this may not be practicable, but older children can construct the filing case. The janitor may be called upon for assistance.

Orange crates, lined with heavy paper, may be used to meet this need. A top should be fitted to the box to keep out the dust. A more satisfactory case, however, can be made of lumber. The cabinet should be sufficiently wide and deep to hold legal-

sized folders and materials. A thin board may be used to separate the case into compartments, and a letter guide may be bought or made of tag-board, to simplify the filing. A section of a regular filing case may serve as the model for this. When painted a soft color to harmonize with the fixtures of the room, or to introduce a note of color, such a cabinet will be an attractive addition to the classroom. The top should be put on with hinges. When the case is closed it can be used as a stand for a bowl of flowers or a piece of pottery. This box file may be placed on a small table, or legs may be attached to make it the proper height for use of the children.

"Transfer cases" of heavy cardboard material can be purchased from an office supply house. These are the size of a section of a regular filing cabinet and are very satisfactory when material is to be filed permanently. For material that must be referred to often they are not so satisfactory, as they do not wear well.

Boxes of different sizes will be found an economical and convenient means for filing pamphlets, clippings, and pictures. By using different sizes there will be less waste space than would result from using a large box for materials of widely different sizes. Convenient sizes are 6½″ by 9″ by 3″; 10½″ by 15″ by 3″; and 15″ by 18″ by 4″. These can be made by any paper box company. For obvious reasons, the boxes open at one end are not as satisfactory as those with a cover.

It is not necessary, however, to purchase boxes. Ordinary shirt boxes of the type usually discarded at a men's clothing store can be used to advantage. It is well to get them uniform in size, and it helps the appearance of the shelves if they are of the same color. A typewritten list of the contents of the box can be pasted on the end. Shelves for box files should be provided in the library, the book room, or the storeroom.

Shelves or bins may be built under work tables for over-sized charts, maps, and folders, or a cabinet can be built to take care of materials of this size. Shelves should be built for exhibits and for collections, models, and so on.

Classification of material. The material may be classified according to topic, subject heading, or by teaching unit or ac-

tivities. Any system employed should be simple enough to be usable—the material should be easy to find when wanted. It is well to keep in mind, in filing the material, *what* will be asked for by the teacher and *how* it will be asked for. Use should be the guiding principle in organizing and classifying the material.

In *American Library Economy*[1] is a well-selected list of analytical topics for a picture collection. Knox's *School Activities and Equipment* also gives a well-chosen list of headings. These and similar sources may furnish the bases for a set of functional and usable unit topics for the beginnings of the Materials Bureau Card Catalog. The list will need to be revised constantly to meet the needs of the teacher in classroom use.

Filing index cards. The following is a standard form for index cards:

In general, those in charge of cataloging favor the unit card, i.e., "a standard card for each piece of material filed, which, when duplicated, may be adapted for the purpose of all cards needed—author, subject, and title cards."

1. *Author card.* The author card, the first type given below, illustrates the unit card. (Notice how it changes as it is adapted to the different types of cards desired.)

973.8 B68	Bowers, Claude Gernade Tragic era; the revolution after Lincoln. Houghton Mifflin, New York, 1929.
B CL	

a. This card should give the author's name; the title of the book; the illustrator's, translator's, or editor's name, if important; the name and address of the publisher and the date of publication.
b. If the price is known, place it after the date. If the material is free, give this information.
c. An annotation (in very concise wording) which the collector thinks worthy of mention may be added. Such items as appropriate grade level of material, use in connection with unit of work, or subject, and the like, may be indicated here.
d. In the center of the left margin write the class number, by letter, to designate the type of material (and thereby the location): B—book, pamphlet, or bulletin; P—picture; S—slide; E—exhibits, maps, oversized charts, and so on.

[1] Published by H. W. Wilson Company, for Newark, New Jersey, Public Library.

e. For classification of types of materials, such as books, clippings, magazine articles, etc., cards of different colors may be used, as books—white; clippings—fawn; exhibits, models, charts, maps—red; magazines—green; pictures—blue, and so on.

f. The designation of the place in which materials may be found might be simplified by a legend of this type: Central Materials Bureau—CB; Building Collection—BB; Classroom Materials Bureau—RB; City Library—CL; Museum—M, and so on.

2. *Title card.* Each article which may be asked for by a distinctive title should have a title card.

a. A copy of the unit author card is made, including the class number. The title as a heading is written above the author's name at the *second indention*, followed by a period.

b. Long titles may be shortened, for example: "About ourselves, psychology for normal people," need show only "About ourselves," as the title heading.

973.8 Tragic era
B68 Bowers, Claude Gernade
Tragic era; the revolution after Lincoln.
Houghton Mifflin, New York, 1929
B
CL

3. *Subject cards.*

a. The subject or subjects of the article are selected by examining the table of contents or introduction and by reading the material itself. The title of an article is often misleading as to the real subject of the work.

b. As many subject cards as are considered useful should be made, the number being governed by (1) the different topics treated in the material which are frequently referred to in class activities, and (2) the varied headings under which these might be classified. Some materials require only one, while others may need several or many.

c. (1) Classification is based upon the way in which topics are most frequently referred to by the teacher and pupils in classroom activities, functional headings being the criterion rather than a technical library organization. Importance and breadth of topics control the divisions in the classification. For example, the many topics included in the term *industry* make it advisable to use the specific industry as a major guide rather than the general classification. Further, when a specific industry is found to be so broad that it includes outstanding topics for school use, it is desirable to substitute a minor for a major topic, i.e., using *grain, fruit, cotton,* etc. as topics in themselves instead of classifying them under *agriculture.*

(2) Where persons using the index might refer to other subjects (e.g., *agriculture* rather than *grain, iron* rather than *minerals, communication* rather than *telephone*), additional cross index cards should be made. These may be "see" cards or the unit card may be repeated with the additional subject heading.

d. In copying the unit card, include the class number. The subject heading which has been decided upon is written above the author's name at the *second indention* either in black capital letters for emphasis, or, if desired, in red. The following should be included: (1) definite page numbers indicating the sections dealing with the special topic, (2) any special annotation deemed necessary.

973.8 RECONSTRUCTION
B68 Bowers, Claude Gernade
Tragic era; the revolution after Lincoln.
Houghton Mifflin, New York, 1929.
B
CL

973.8 U. S.—POLITICS AND GOVERNMENT
Bowers, Claude Gernade
Tragic era; the revolution after Lincoln.
Houghton Mifflin, New York, 1929.
B
CL

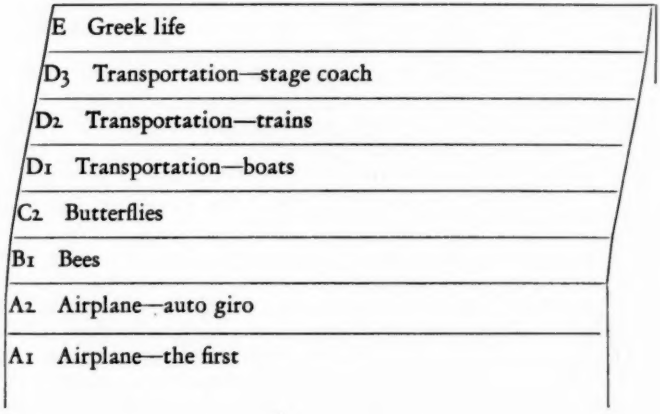
GENERAL SUGGESTIONS FOR ARRANGEMENT OF CATALOG CARDS

1. Arrange all cards by the first word on the top line except initial articles, *the, a, an,* which are disregarded and should be omitted on the typed card. Follow letter by letter to the end of the word and then word by word.
2. Arrange the subdivisions of a subject alphabetically:
   Art—ancient
   Art—bibliography
   Exception: under history of a country, the subdivisions are arranged chronologically.
   U.S.—history
   U.S.—history—discovery and exploration
   U.S.—history—Colonial period
3. To assist one in finding quickly the material desired, a number of guide cards should be used. Printed alphabet guides and blank guides on which the necessary heading may be written should be secured.

Information File

There is much valuable material in the form of pamphlets, clippings, pictures, etc., that should be kept as reference. It has been found that the Dewey decimal classification or a letter and number code file is the simplest as well as the most economical and practical system for filing of this type. The most satisfactory equipment to give quick reference is the use of such a collection in a vertical file with paper guides and folders.

1. The Dewey classification or a letter-number code is assigned to each folder similar to that which is placed on the corresponding subject, author, or title card.
2. Several pieces of material which center around a given topic may be put in one folder. The various pamphlets, clippings, etc., are lettered A, B, C, etc., according to the order of their classification. A list of these pieces of material and the numbers assigned to them should be kept on the back of the folder. This provides a means of keeping material in the correct order.



3. Both the Dewey classification and the letter-number code permit growth, an important requisite for filing ephemeral materials. A letter may designate the topic, being used singly, doubly, in triplicate, etc. For example, the first topic is marked A, the 27th, AA, the 54th, AAA. The number reports each additional folder of material on a given topic, e.g., A1, A2, AA1, AA2.
   It will be noted that the vertical file itself is not alphabetical by topic. Its use is dependent upon the topically arranged card-index file. However, all materials pertinent to a given topic are found in the same place in the file.
4. Alphabetical paper guides aid in classification and use of materials.

Mounting and Preserving Materials

Mounting pictures. Cut the picture neatly. Keep the title or description to be pasted on the back of the mount. Select a mounting suitable for the pictures—gray, tan, brown, dark green, and black are good colors. The color of the mount should echo or repeat one of the dominant colors in the picture and should be within the range of the picture—not lighter than the lightest area nor darker than the darkest spot.[1]

Mounting boards may be of any cardboard or stiff paper substantial enough to keep the corners neat. The mount should be two to four inches larger than the picture. The bottom margin should be slightly wider than the margin at the top and at the side.

To protect prints where it is desirable to have them handled by children, the mount may be covered with a piece of isinglass cut the size of the mount, held in place with a binding of passe partout tape (this may be purchased at the ten-cent store). This makes a neat finish for the picture and the isinglass may be wiped off with a damp cloth without injury to the picture. Cellophane may be used in the same manner but is not as durable as the isinglass.

Clippings. Cut the article carefully, being sure to keep the name and date of publication. Cut in pieces nearly as long as the folder, envelope, or box in which it is to be filed. Paste on cardboard; where the article is on both sides of the page, the clipping can be pasted down at the top or at one side, so it can be folded back to be read. Duplicate copies, of course, would be preferable.

Maps, posters, charts may be mounted on heavy cardboard, beaverboard, or railroad board. To make a neat finish, bind the edges with passe partout tape. The mounted poster or map may be shellacked to preserve the color and to keep it clean, as the shellac can be wiped off with a damp cloth without injury to the colors of the poster or map.

Maps and posters may be mounted on coarse cloth or canvas.

[1] Mathias, Margaret E., *The Beginnings of Art in the Public School*, p. 92. Charles Scribner's Sons, 1929.

The material should be stretched very tight before the poster is pasted on and left under a heavy weight until thoroughly dried. It may then be rolled around a stick and tied to be filed. Mounted in this way, it takes up much less space than when mounted on heavy cardboard.

Bulletin boards cannot be overlooked as classroom equipment. They are especially useful in displaying materials of the type discussed in this chapter of the Yearbook. Bulletin boards should be attractively arranged[1] and the items should be changed frequently. One means of securing an orderly arrangement of the bulletin board is to use light tan cards of different sizes spaced satisfactorily on the board, on which different headings may be lettered, as:

NEWS	ANNOUNCEMENTS	CLASS NOTES

These cards can be tacked to the bulletin board and notices put under the proper heading. Some such arrangement will do much to prevent a disorderly appearance of the bulletin board and at the same time assist the pupil in locating quickly a desired item.[1]

[1] Mathias, Margaret E., *op. cit.*, p. 93.

CHAPTER VIII

SUPERVISOR'S RELATION TO IMPROVEMENT OF MATERIALS OF INSTRUCTION

MAYCIE SOUTHALL

It is the purpose of this chapter to set forth the relation of the supervisor to the improvement of instructional materials. Materials of instruction are defined as those tangible, visual, auditory, kinesthetic, gustatory, and olfactory aids to learning which are actually used by pupils. Such aids include all first-hand and second-hand means of experiencing used to enrich the school program.

So little was found in current literature on the subject that it seemed advisable to conduct a study. Since the best practices and opinions of those working under different types of present supervisory conditions were desired, the mailing list was carefully selected from the latest list of members of the Department of Supervisors and Directors of Instruction. In order to get the differences rather than the frequency of certain practices, an informal questionnaire was developed which stated the purpose of the request and asked supervisors for a brief report of (1) what was being done in their system to provide better and more adequate instructional materials and (2) what in their opinions should be the supervisor's responsibility for the improvement of materials, and how this responsibility could best be met.

This request was sent to 100 representative supervisors and returns were received from 60. In several cases the entire supervisory staff coöperated in compiling the report. Therefore the returns really represent more practices and opinions than the number would indicate. A list of those coöperating will be found in the Appendix, page 218. Twenty-one others replied, giving reasons

why it was inconvenient or not advisable for them to coöperate. Ten of these were no longer in the same position as indicated in the 1933-34 membership list.

The returns seemed to be fairly representative of present practices, as no new suggestions were found in the last several reports analyzed. The findings were organized and will be reported under eight headings, namely, (1) determining the instructional materials most needed, (2) developing an awareness of the educational value of materials, (3) finding best sources, (4) selecting materials, (5) securing those most needed, (6) making the materials accessible to teachers and children, (7) promoting efficiency in using, and (8) evaluating materials in terms of educational results.

In each of the eight sections present practices are first presented in the order of frequency of mention, special attention being given to unusual practices. These statements of practices are in each case followed by recommendations which incorporate the supervisors' opinions of what should be done and what their relationship to the improvement of materials of instruction should be.

Determining the Materials Needed

There are several points to be kept in mind when determining the instructional materials which are most needed by a school system. Consideration should be given first to the children—that is, the interests, needs, and abilities of the children in the different grades and localities to be served; second, to the educational objectives which the materials are expected to further; third, to the size and organization of the local system; fourth, to the amount and kinds of materials already on hand. Two other questions, namely, funds available for purchasing materials and resources of the local environment should also be considered when deciding what is to be purchased.

Who determines the materials needed? The type of person, or group, which determines what materials are needed by a system varies widely, as is shown by the following statements representative of the different practices reported:

1. The superintendent of the bureau of supplies takes care of this.
2. The supervisor determines the most desirable types of instructional materials in view of curriculum needs.
3. The staff members prepare a list of materials needed in their respective departments.
4. Heads of departments, supervisors, and methods teachers make requisitions for the books and materials they desire.
5. A committee of teachers assists in finding the materials most needed. (Membership of committee is based on significant work done in the field in question.)
6. The Teachers' Advisory Committee, selected by the teachers to represent them, meets frequently with the supervisor to determine the material needs of the schools.
7. Special committees are appointed to investigate new materials and make recommendations.
8. The instructional materials most needed are determined through the coöperation of the following committees, with the supervisor acting in an advisory capacity:
   a. Special committee appointed to investigate specific materials.
   b. Committees working on course of study.
   c. Teachers' advisory council elected by the teachers.
9. Special committees appointed to investigate materials, make their recommendations annually to joint conference of teachers, principals, and supervisors.

It will be noticed that in situations represented by Nos. 2-4, the supervisor or supervisors themselves determine the material needs of the system. On the other hand, in systems represented by Nos. 5-9 the materials needed are determined coöperatively, by committees of teachers working with the supervisor or supervisors. Special attention is called to the possibilities of a combination of Nos. 8 and 9, which would put the responsibility for recommendations on a special materials committee appointed for that purpose because of fitness, but which would give them the coöperation of the course of study committees, the teachers' advisory committee, and the supervisors. This special committee would also receive the reaction of the whole group to their recommendations before any went into effect.

Although a few supervisors work single-handed, it was significant to note that the majority of those reporting utilize the coöperation of many people in determining the instructional materials most needed to be either found, made, or purchased with the funds available for that purpose.

Means used to determine needs. How needs are determined is probably more important than who determines them. Therefore a further analysis was made of the returns to ascertain the different means used for this purpose. They seemed to fall under the following headings, which are named in rank order and will each be discussed separately: visitation and observation; the recommendations and requests of teachers and pupils; analysis of weakness in results; curriculum records and the course of study; pupils' reading records and reports; and experimentation.

1. *Visitation and observation.* The supervisor's first-hand observation of the materials needed, as revealed by classroom practices, was the means most frequently mentioned. These observations included a study of the uses teachers and pupils were making of the different materials, frequency of use, problems involved, results obtained, and the reactions of both pupils and teachers to the different materials being used or discussed.

Several mentioned noting new materials needed in their system when visiting other school systems, and when studying publishers' catalogs, samples, or exhibits.

2. *Recommendations and requests of teachers and pupils.* With few exceptions the returns indicated that teachers are all free to make suggestions regarding the materials needed. Several stated that the teachers were responsible for evaluating those in use and watching for new materials. Teachers were asked to report and in some cases to bring samples of materials found in various ways, such as through visits to other school systems, displays and exhibits, catalogs and advertisements, reports of practices in other schools, research findings, and summer school recommendations.

The requests and recommendations of teachers and principals are assembled and organized in several different ways. Some supervisors use only informal conferences with individual teachers and principals during visits and at the office; others use group conferences, which in some cases were called for the purpose; still others use form letters, questionnaires, or check lists. In a few cases, the questionnaires or check lists are sent each spring for one or all of the following purposes: to determine (a) the adequacy and fitness of the materials in use; (b) the amount on hand;

(c) the additional materials needed for next year; and (d) the new materials that should be added. The principals, in some cases, analyzed the suggestions from their teachers and recommended additional materials needed for the school. The suggestions, requests, or requisitions were so organized by the supervisor, supervisors, or the committee charged with this responsibility as to show not only the kind but also the amount of each type of instructional material needed for each school and for the entire system.

3. Weaknesses in results. An analysis of the results or achievements of the different schools to determine points to be strengthened by materials as well as by methods ranked next in frequency of use. Weakness in educational results as revealed by the following means were each reported one or more times: (a) school progress records, (b) standardized test results; (c) ratings on rating scales; (d) observational records of supervisor; (e) records of units of work; (f) activities needing more attention; (g) stenographic reports of different types of lessons.

4. Course of study and curriculum records. Only nine mentioned studying the course of study as a means of determining the materials needed. In one case a voluntary committee studied the instructional materials recommended by the best courses of study. In the other instances the local course of study was analyzed by the course of study committees or by a committee specially appointed to determine the materials recommended that were not available.

Six reported that units of work were analyzed to determine materials needed for successful teaching. In one case the proposed units were the ones studied, but in all other cases it was the records of units taught by the local teachers. Most of them were analyzed to determine the materials actually used. One stated that the teachers kept a record of the materials they needed in two groups, recording in one section those that they were able to get and in another section those that were needed but not obtainable.

5. Pupils' reading records and reports. Pupils' reactions to books and magazines ranked fifth in frequency of use as a

means of determining the materials needed. Each of the following was reported one or more times: (a) the library cards of the central library were studied to see which books were used often enough to warrant additional copies; (b) a check was made of the magazines used; (c) librarians and teachers kept records not only of the books children read but of which ones they liked; (d) records were also kept of the things children wanted to read, or factual material they needed that was not available.

6. Experimentation. It seemed strange that only four mentioned using experimentation as a means of determining materials needed. None of these reported experimentation as a means of determining which of the old materials to reorder. New materials were usually referred to certain teachers and principals for experimental use and criticisms—textbooks being tried out before being selected more often than any other materials.

Recommendations. The following suggestions were made regarding the supervisor's responsibility for determining the instructional materials needed in the system. The supervisor should be constantly studying conditions to determine needs; should sense the need for improvement; and should be responsible for interpreting modern trends of education in terms of the additional materials needed for such advancement. Furthermore, it is important that the supervisor lay before the superintendent the needs of the pupils in such a way that materials will receive a just share of the school budget at every grade level. The supervisor should also acquaint parents and organized groups with the need for, and uses of, various types of materials. If orders must be cut, the supervisors should try to have left out the things least essential to the children's growth.

Developing an Awareness of the Educational Value of Materials

Since Rousseau's time there have been those who have recognized that whatever materials were of educational value should either be brought into the schoolroom or the children taken to them. Yet today the majority of our public elementary schools are very inadequately supplied. Considering the large amounts

that have been spent for school buildings, transportation, and other items of school cost, it seems reasonable to suppose that if parents, school officials, and classroom teachers had been fully aware of the relation of materials to teaching, our schoolrooms would not be so bare. Therefore, one of the chief problems connected with materials is to make teachers and school officers so keenly aware of the need that they will make every effort to secure more and better instructional materials.

The different means which the coöperating supervisors reported as being used to develop an awareness of the educational values of materials are summarized below in order of frequency of use.

1. *Study groups.* Discussion at group conferences is the means most frequently used to stimulate interest in materials. These meetings are frequently held in classrooms that exemplify the wise use of materials. Special attention is given to: (a) new and old materials which are available for the same purpose; (b) creative materials of various kinds; (c) discards and the great wealth of environmental materials; (d) adaptation of materials to the needs of exceptional children—the gifted as well as the many types of handicapped children; (e) techniques in the use of different materials—voluntary classes were organized in one system for the teachers who wished to increase their skill in the use of clay, wood, paint, etc.

2. *Demonstrations.* New and better uses of materials are stimulated through supervised demonstrations in over half of the systems reporting. A classroom teacher or the supervisor demonstrates for groups of teachers the new materials that are being introduced into the system. Those recommended for use by the course of study committees are introduced in the same way. A demand for materials, especially the new and environmental, is created by having teachers observe one using them successfully.

3. *Planning with teachers.* By participating in the regular classroom activities, especially larger unit planning, the supervisor has many opportunities of bringing to the teacher's attention materials heretofore not recognized as educational. Through informal discussion of the teacher's difficulties and needs, the supervisor

may acquaint her with the materials which expert opinion or research considers best for the purposes, and materials which the supervisor has observed other teachers using to meet similar problems.

4. Materials committee. A consciousness of the relation of materials to child-learnings is aroused through the work of special committees in about one-fifth of the systems reporting. Some organize committees to study children's interests in, and the uses that are made of, certain materials. For example, the Children's Literature Committee reports children's responses to the books on the recommended list. In some systems each grade has a materials committee which coöperates with the course of study committee or teachers in compiling materials suitable for units of work; in others this service is rendered by the course of study committees. Bibliographies and lists of recommended materials usually grow out of the work of these special committees. Special bulletins are sent out by some, at infrequent periods, calling attention to new books and materials, samples of which are on exhibit.

5. Intervisitation. Where teachers have studied the materials provided in different schools in terms of their value to children, it has seemed to make them more aware of their importance, especially those materials that stimulate creative expression. The visits of representative teachers to other systems to appraise the materials in use and to report upon them to the local group were considered very valuable. One of the supervisors said that the most influential thing she had ever done was to take leaders of parent study groups to visit schools, calling attention to the differences where rich materials were provided and where they were not.

6. Teachers' excursions. Planning excursions for teachers to various educational centers in and near the community was reported by only five supervisors, but in each case it was considered the most helpful thing they had done. Trips were planned to major industries to show the relation of materials and environmental factors to the different fields of human endeavor. In one case a series of Saturday nature trips was planned for teachers desiring the guidance of a specialist in discovering the plants and animals resident in their community, and each Saturday the

number participating grew. In one system all teachers are asked to be "scouts" observing, recording, and reporting environmental materials they thought others would like to know about. The purpose of the excursions in one system was to aid in a survey of the local community—maps and guides were prepared for teachers' and parents' use.

7. *Exhibiting and circulating materials.* Several ways of exhibiting and circulating materials were reported as valuable aids in stimulating an interest in, and broadening the teachers' conception of, instructional materials. In one system the materials gathered by children and teachers which are considered of value to others are shared by filing them in the Materials Bureau or central library for circulation and use. Another system has a changing exhibit of books and educational materials which is arranged by the teachers under the guidance of the supervisor. In one rural system groups of children and teachers are encouraged to prepare traveling museums, art exhibits, and libraries which they exchange with other groups within the system and in other communities and geographical regions. Some reported that during Book Week the bookstores feature exhibits of children's books recommended by the teachers, and at Christmastime the department stores coöperate by making special exhibits of toys and other materials recommended for purchase by local parent-teacher study groups.

Recommendations. The following suggestions were given for arousing those affecting instructional materials, directly or indirectly, to a recognition of their opportunities and responsibilities. The supervisor should: (1) awaken in teachers a desire for more and better materials by making them conscious of the relation of such materials to ease and efficiency in teaching; (2) acquaint parents and organized groups with the value of material in furthering and enriching the learning of children; (3) present the needs of the school in such a way that the superintendent and local board will give instructional materials a much larger place in the school budget; and (4) acquaint commercial firms with the needs for educational materials that have not been met thus far by such firms.

Finding the Best Sources

Realization of the problem of materials has been greatly augmented by three things: an increased knowledge and recognition of children's interests and capacities; the nature and extent of individual differences within the same grade; and the need for making school experiences more functional in real living. The means these representative supervisors are using to find more and better materials are discussed under two headings: commercial materials and environmental materials.

Commercial materials. With the steady increase in the number and kinds of materials provided and the rapidly growing number of producers, the problem of finding best sources has also increased. The different aids to this end which are being used are reviewed here in rank order.

1. Exhibits. The most frequently mentioned way of locating new materials was through exhibits. Five different kinds of exhibits were mentioned as being utilized for this purpose:

1. The exhibits of publishers and supply manufacturers at national, state, and sometimes local meetings.
2. Permanent exhibits of the more successful collections made by different grades or grade groups—a few have a "materials bureau" charged with the responsibility of caring for and circulating this material.
3. Units of work exhibited, showing materials used for different purposes. (One system provides a conveniently equipped display room which houses a changing exhibit of materials used in different types of activities.)
4. Exhibits of samples sent to local systems by publishers and supply companies. In some cases a regular sample room is provided.
5. Temporary exhibits loaned by local merchants and factories.

2. Reading books and magazines. Teachers, principals, supervisors, and children, one and all, were reported as constantly on the lookout for new material. The kinds of reading which were mentioned as contributing to this end were:

1. Pictorial information in magazines.
2. Materials recommended by special groups or committees.
3. Bibliographies recommended by individuals and groups.
4. Reports of newer practices.
5. New books sent complimentary.
6. Research findings and recommendations.

3. Studying advertisements. Those charged with the finding of new materials frequently mentioned advertisements as a ready and up-to-date source of information, because materials are frequently advertised before they are available for distribution. The following were mentioned one or more times in the order listed:

1. Examine catalogs of publishers and supply companies.
2. Study advertisements and announcements of materials in leading magazines.
3. Review the material prepared by the Chamber of Commerce and the better advertising agencies.
4. Read letters announcing new materials and look up national exhibits.

4. Analyzing curriculum records. Although not often mentioned, an analysis of records of units of experience should prove an invaluable source for finding not only new materials but materials suitable for different purposes. In some systems the curriculum records are analyzed and materials used reported by each classroom teacher, other times by the principals, supervisors, or members of curriculum committee. In either case the findings are organized and summarized for the convenience and guidance of the classroom teachers.

5. Interviewing or talking with others. Although sometimes considered the lazy man's method, asking others can prove to be one of the most fruitful and economical means of finding best sources of different kinds of materials. The various ones whose knowledge and experiences were utilized are listed here. Only the first two, however, were mentioned more than twice:

1. Granting interviews with representatives of publishing companies and commercial companies.
2. Conferring with teachers, principals, and supervisors about the materials they have found and recommend.
3. Getting the recommendations of local specialists.
4. Interviewing college professors and professional experts.

Environmental materials. During periods of prosperity as well as depression, the local environment offers one of the richest and at the same time one of the least expensive sources of materials, pregnant with meaning for children. The majority of the reports indicated that supervisors are encouraging teachers to make

a wider and more effective use of those materials that may be had for the finding and asking.

The responsibility for finding environmental materials differs with the systems, but in the majority of the reports it is a coöperative undertaking. Sometimes teachers, children, principals, supervisors, and people of the community all work together in finding and bringing in environmental materials. The following statements are representative of the different practices reported:

1. All children are scouts to locate and collect materials of different types. These are placed in a coöperative exchange exhibit.
2. Teachers are alert in finding and reporting sources of materials.
3. Supervisor studies the local community and displays samples of environmental materials obtainable.
4. Special committees determine the best sources of various kinds of material, as clay, paper, water life, etc., or materials that may be found in certain sections, as parks, truck farms, etc.
5. People of community assist in locating materials.

Although teachers are encouraged to utilize environmental materials in a number of ways, only a few methods of determining what instrumental materials were resident or obtainable in the community were mentioned:

1. Survey of community. A systematic canvass or survey of the entire community was the most comprehensive means reported for finding what educational materials were available in or adjacent to the local community. Although in some cases such surveys were made by the supervisors or by a special committee or committees, in two instances every person in the system participated. The principal, teachers, children, and people of each school organized the materials available in the section served by that school. A special committee then took the separate reports and organized a composite report of the materials that were most educational, charting the best sources of each.

2. Guides for teachers and parents. Such information as is found is made available as a guide to all teachers and in some cases to parents. For example, the bulletin, *Places to Go and Things to See,*[1] in addition to suggesting centers of interest to which teachers may take children, also lists places further away to

[1] *Places to Go and Things to See.* Spokane Elementary Schools, Spokane, Washington, 1931.

which it is suggested that parents take their children when going for a pleasure trip. Some of the guides contain maps as well as directions for finding materials. A few recommend certain preparation and evaluation in order that the visit may be most worth while.

3. *Children as explorers.* The material that has been already discovered is constantly being enriched by the daily experiences and explorations of the children under the guidance of the teachers. Many new and valuable materials are discovered by individual children in the attics and basements of homes, and useful waste materials are found in the immediate environment as well as in the specially planned trips to museums, historic spots, parks, public library, public utilities, agricultural and manufacturing centers. Mention was made frequently of the courteous, helpful way in which owners or managers of places visited explained points of interest, answered questions, and often loaned exhibits and materials to supplement the visit.

Recommendations. In the search for better instructional materials the supervisor should be a leader, but he is only one person and should seek the help of the entire teaching and supervisory staff. The search may be conducted jointly and the findings brought to the attention of the others in the following ways:

1. Noting new uses of materials by local teachers.
2. Observing new materials when visiting other systems or reviewing publishers' exhibits.
3. Looking for new materials when reading.
4. Encouraging teachers in certain grade groups to club together in finding the materials needed, especially waste and environmental materials.
5. Recording and calling to the attention of others outstanding materials developed or discovered in the system.

Selecting Materials

Who selects materials? The materials are selected by the following individuals or groups listed in the order of frequency of mention: (a) supervisor, assisted by principals and teachers; (b) supervisory staff; (c) the supervisor responsible for the department in which materials are to be used; (d) a specially appointed or standing committee; (e) members of state curriculum committee; (f) teachers; (g) authorities outside system. The follow-

ing statements are representative of the different practices described:

1. Instructional materials are selected by the supervisor and representative principals and teachers, subject to the approval of the superintendent.
2. From the mass of materials available, the supervisory staff, after attacking the problems coöperatively, recommends a few of the best.
3. Each supervisor is responsible for selecting the materials used in his department.
4. A committee of teachers, appointed because of their knowledge of children and materials, are asked to examine, evaluate, and recommend the types of materials to be secured.
5. Materials used are largely selected from the state course of study and the state's recommended list of books and supplementary materials.
6. Teachers attack the problem of materials coöperatively, through meetings.
7. The supervisor coöperates with the librarians in the selection of books for the recommended list.
8. The materials purchased are those recommended by the authorities in the field.

The question might well be raised as to whether all of those mentioned above should not have a voice in the selection of materials and whether the children also should not be heard? If so, what organization will most nearly challenge the efficient coöperation of representatives of these various groups who are affecting or being affected by instructional materials?

Means of selecting materials. Among the devices for selecting materials, the following are reported:

1. Experimentation. Testing the efficiency of materials through experimentation is doubtless the most scientific means of selecting old as well as new materials, but it was mentioned by only one-tenth of the supervisors consulted. Most of these stated that new materials were tried out in a few schools before orders were placed. One said that the findings of experiments were summarized to aid teachers in selecting materials. In another system the schools coöperated with textbook writers in trying out their materials, experimentally, before publication.

2. *Expert opinion.* Next to tested thought, the opinion of specialists in the respective fields probably ranks second as a scientific guide for selecting materials. Yet it was listed by only four supervisors, and only two of those seemed to be using the

recommendations of what might be termed authorities in the higher sense.

3. Opinion of local group. The opinion of those in the local system was the most frequently reported basis for selecting materials. Sometimes it was the opinion of the supervisor or supervisory staff working alone; at other times, of a specially appointed committee; and again, the opinions of groups of teachers in conference with principals and supervisor.

Although the majority reported that all materials were examined and carefully evaluated before being recommended or added to the recommended list, only five stated that any special criteria or standards were used in the evaluations and only three of these submitted the criteria in use. The criteria reported were set up in three different ways: (1) by the supervisor in the department; (2) by experts in the field; (3) by those responsible for the selection of materials.

4. Exhibits or displays. The means most frequently used to bring teachers in contact with the new materials was the exhibit. In many cases samples of all new books and materials were made available for teachers to observe and examine. In some systems they are placed in a special exhibit or sample room; in others, they are exhibited in the supervisor's office or in the Materials Bureau; in still others, the new materials are placed in the classroom in which teacher meetings are held, thereby provoking observation and discussion. One very interesting suggestion came from a supervisor who said he arranged a meeting once a year in some school building in which there was an interesting display of materials, such as an art museum, a toy display, the best new books, etc. Another stated that once a year the best new materials in each field were brought to teachers' meeting and discussed by an expert in the field—for example, new books were discussed by a children's librarian, test materials by the Director of Research, etc.

5. *Lists or bulletins.* An analysis of the lists of materials received would indicate that they are of two types. One is the so-called "requisition list"—a list of materials recommended for use in the system, which will be supplied through the central office

upon request up to a certain stipulated amount set aside for each school, teacher, or child served, as the case may be. Such sheets or lists would seem to be primarily for administrative purposes, namely: (1) to aid teachers in making requests for materials; (2) to organize and summarize such requests; and (3) to facilitate the distribution of the materials requested. Lists of the other type seem to be chiefly for suggestive purposes—giving guidance and stimulating a more intelligent selection and a wider use of materials. The second type gives special attention to new materials, raw materials, reading materials of various kinds, and the great wealth of materials to be found in the immediate environment and adjacent communities.

Recommendations. A threefold responsibility was recommended for the supervisor in the selection of instructional materials. He should (1) be well informed regarding the best materials available; (2) should encourage teachers to approach the selection of materials scientifically and coöperatively; and (3) should prepare or have prepared lists of materials to acquaint teachers with the results of experimentation and study.

To be a guide in the selection of materials, it is recommended that the supervisor familiarize himself with: trends in the improvement of materials; research findings; recommendations of specialists in the different fields; new materials published; and reactions of teachers and pupils to materials being used.

The supervisor should guide teachers to approach the selection of materials in a scientific manner: (1) by keeping them in touch with new materials, samples of which should be available for examination and study; (2) by stimulating them to utilize the findings of research and the recommendations of experts; (3) by encouraging them to experiment with what seems to be the best of that which is needed; (4) by checking those experimented with for adaptability to individual needs, suitability to schools represented in the systems, and the educational objectives to be fostered; and (5) by sharing with others the results of their study and experimentations.

Recommended lists of materials or guides should be prepared and sent out to assist teachers in selecting and making requisi-

tions. The supervisor should not only welcome but should seek the suggestions of teachers, principals, and specialists in compiling the lists of recommended materials. Such lists should be kept up to date, limited enough to be genuinely discriminatory and yet broad enough to meet different conditions in schools and classes.

Securing Instructional Materials

In securing materials, supervisors have the coöperation of various people and groups, namely, boards of education, principals, teachers, parents, children, organizations, agencies, bureaus, companies, and local groups. They are using four general means of securing such materials. These will be discussed in the order of frequency of mention: buying, collecting, making, borrowing and exchanging.

Buying. Regardless of how many other means are used for securing the needed instructional materials, a large proportion will doubtless have to be bought, especially books and other reading materials. Therefore the returns were analyzed to determine who does the buying.

1. *Board of Education.* In the majority of the systems the Board of Education appropriates a definite amount for laboratory equipment and materials. This fund is prorated in three different ways: (1) by types of materials to be bought, (2) by departments to be served, (3) by classrooms to be supplied. Requisition sheets are compiled in several ways, but are usually organized so as to summarize the total amount of each type of material needed for the entire system. Several stated that the Board did not bear the total cost. In some systems they only duplicate the amount of money raised locally and in a few cases the state, county, and local community coöperate equally, especially in buying library books.

2. *Parent-teacher groups.* Sometimes parents or parent and teacher groups supply all of the instructional materials provided. In most cases reported, however, they merely supplement materials bought with the funds set aside for this purpose in the school budget.

3. Children and teachers. Pupils also frequently help in buying materials they need. They give programs for which a small admission is charged, have sales of their own products, and make small individual contributions.

Collecting. Much free material was reported as obtained from: the homes, manufacturing and agricultural agencies, local warehouses and retail merchants, travel bureaus, state and national organizations. References[1] are given to two lists indicating sources of materials that may be had free or at small cost. Free copies of these lists are available at the addresses given.

While teachers and supervisors work coöperatively in locating most of the material, much of it is gotten by the children. They get their parents to contribute materials from their attics and backyards; they request local industries and stores to save samples, scraps, odds and ends; they write industrial plants for exhibits, travel bureaus and Chambers of Commerce for literature, state and national organizations for posters, charts, and pamphlets that may be had free or at small cost. In a few cases committees of teachers locate the local materials and request that they be picked up at infrequent or regular intervals by the school truck and placed in a central place for the teachers. For example, in one city system all the orange crates in the entire city are spoken for in advance and collected at frequent intervals by the school truck.

Almost any community offers a great deal of material for the study of plants and animals. The rural communities are especially rich in materials for observation and experimentation with living, growing things in their natural habitats. On the other hand, the city child's environment is often supplemented by museums, parks, zoos, etc.

The reports indicated that the supervisors are encouraging teachers to expand their school walls and open up to children their great wealth of environmental materials.

Making. When money is lacking with which to buy instructional materials, or the kinds of materials needed are not available, many systems resort to making their own. Test materials, drill

[1] *A List of Free and Low Cost Educational Materials for Elementary Grades.* Peabody College for Teachers, Nashville, Tennessee, 1933. *Help for Teachers,* by Rowena Hansen. U. S. Office of Education, Washington, D. C.

materials of different kinds, exercises and checks on readings are the materials most frequently constructed. Several utilize old textbooks, pamphlets, and magazines of various kinds by reorganizing and binding to meet children's needs for source materials. One supervisor stated that they were writing their own material on children's level. Another said that none of the commercial materials were suited to their needs and they were making all of their materials. Most of the materials made are distributed through the supervisor's office, but they are usually prepared by individual and small groups of teachers with the supervisor's help or guidance. Not only the teachers' but the children's creative ability is utilized, many books being written and material collected by groups of children and left as an enrichment of the grade library. Frequently, because of the expense and effort entailed, there is only one copy of some types of material. Most of it, however, is duplicated by means of mimeograph, ditto machine, hectograph, and hand-printing machines. The duplicating is done by various people in the different systems, namely, commercial students, groups of teachers, clerical help in supervisor's office, and sometimes by the supervisor. In a few of the systems the trade school printed all the materials prepared locally.

Borrowing and exchanging. Where permanent possession is impossible or impractical, the materials are frequently borrowed from different sources, namely, central office, central or state library, the homes, other grades in same school, other schools, the children, and teachers. Certain materials, as slides, collections, etc., are loaned by the central office for a set period of time, the kind and amount lent to each room depending upon the supply available. In many cases teachers are allowed to check out a certain number of books from the central library or get traveling libraries for their schools. Usable books, magazines, and nonreading materials are borrowed from the homes. Teachers in the same school and in different schools in the same system and in different communities exchange materials, especially the printed and visual aids. Children and teachers share their books, magazines, collections, etc., with other groups. One supervisor re-

ported trading in all the worthless books in the school library to book companies, which allowed a substantial discount on new books published. Furthermore, there is much exchanging of locally prepared materials that have a psychological or content value.

Recommendations. The supervisors seemed to agree that there should be a fund designated for materials in the annual budget and that they should work to make this fund a much larger proportional part of the total budget than it is at present. Several suggested they should not only attempt to prevent a curtailment of this fund during the depression but should strive to get a larger fund and new materials bought even when the budgets have been drastically cut. They also recommend that the supervisor be responsible for the efficient use of the money allowed by the Board. This responsibility should be met by: (1) guiding the selection of materials; (2) getting teachers to work together in making their requests, so that there will be no unnecessary duplications; (3) organizing the requisitions of the teachers in such a way as to determine the materials desired and the amounts needed of each; (4) substituting cheaper materials for the more expensive materials whenever advisable.

A few of the supervisors stated that they thought it desirable to attempt to get a wider use of the money expended for materials through increasing the amount of material that circulated from the central office, the central library, and the central supply room in each school. They also felt that teachers should be encouraged to exchange more, especially those teachers in the same school or same grade.

Some suggested that supervisors should encourage teachers to make materials to meet children's needs, especially in reading, and that committees of teachers be stimulated to prepare and contribute such materials as are needed by their grade.

There were several recommendations to the effect that supervisors should help teachers survey the materials available in each community, encourage them to help each other in locating and collecting that which is educational, and preventing valuable environmental material from going to waste.

Making Materials Accessible

Various ways of making instructional materials accessible to teachers and children were reported, namely, through centrally located depositories, using the classroom as a depository, or having a storage or materials room.

Centrally located depositories. There is a decided tendency to locate centrally and circulate much of the materials. The depositories most frequently mentioned were: a general supply depot, the central library, the supervisor's office, materials bureau, and an educational service bureau. How each of these is being used to make the materials more accessible will be discussed in the order of frequency of mention.

1. The central office. Many materials for children's use are made accessible to teachers and children through the central office. In some systems all materials are housed in a central depot; other systems distribute all materials, immediately, to the supply room of the different schools; while others distribute part but keep a reserve in the general supply room. Requisition forms are usually used for supplies from the general supply room. Several stated that teachers make requisitions to the supply room of the building and principals to the central supply room. Others reported that teachers, using a classified index of the materials available, make their requests direct to the central supply room.

Materials housed in the central building are delivered by the school truck in the majority of the systems reporting. Only regular deliveries are made in some systems; the time of these deliveries varies—in some systems delivery is made only at the beginning of the year, in others at the first of each semester, and in others once a month. Some reported that supplies could also be had by going to the central building for them any time the supply room was open; this ranged from once every two weeks to all day every day. One supervisor felt that they were very fortunate in having worked out a plan whereby a telephone call would bring any teacher any material available at any time—the approval of the supervisor or principal being unnecessary.

In most of the systems represented, the materials obtained from

the central office are charged to the Board of Education or to the individual school. General supplies are more often charged to the Board and special supplies to the school, or paid for by the children. One supervisor reported that a limited supply of all materials needed are made available to the teachers in those districts where children are unable to provide their own. Materials, such as textbooks, that are not used up are usually lent to the schools. Only one supervisor reported the textbook rental system.

2. *A circulating central library.* Better and more reading materials are made available through coöperation of the school with the central library. This plan provides a larger amount of reading material and visual aids for the same expenditure. The following types of services were reported as rendered by the central libraries:

1. Many kinds of printed and visual aids, as books, pamphlets, pictures, slides, etc., are made available to the schools.
2. Special collections of books and illustrated materials for units are made available upon request.
3. Each teacher may check out a number of books for a definite or indefinite period.
4. All children are provided with library cards and may check out books as frequently as desired.
5. The central library establishes branch libraries in the different schools.
6. The local library supplements its facilities through the State Library Commission.

Three means of circulating the library facilities were found. They are named in the order of their desirability. A few libraries have a regular delivery service and two rural supervisors stated that they had an itinerant librarian who accompanies the library truck on its rounds. Many of the libraries, however, use the school trucks, which deliver only at stated intervals—usually once every two or four weeks. Other systems depend upon the principal and teachers to call for and return all books.

3. *Supervisor's office.* In a few systems the supervisor's office is the distributing center for all school supplies, each school having a post office supply box in the supervisor's office, or some other device. In the majority of the systems, however, the materials in the supervisor's office are for the teachers' informa-

tion and use rather than for the children. For example, the supervisor keeps up-to-date exhibits of books and samples of manufactured materials in order that teachers may examine and order intelligently. Samples of children's work are often kept on file in cabinets, in the waiting room of the supervisor's office. The supervisor's office is the center of information and guides with respect to various kinds of materials, such as books and materials recommended for different purposes. The information regarding materials is sometimes filed so that each teacher may find what she needs and may in turn contribute any information or materials she has found and wishes to share with other teachers. The results of the work of different groups of teachers and sometimes of individual teachers is mimeographed and sent out from the supervisor's office to those teachers who are likely to be interested.

The supervisor's outer office often serves as a professional library or curriculum room for groups of teachers working together, or to aid individual teachers in their planning.

In addition to materials for teachers, a few kinds of materials for children are often kept in the supervisor's office. These include materials that are rare, those limited in quantity, and special exhibits or collections of various kinds which are often circulated through the supervisor's office when there is not a Materials Bureau. Several reported that their office mimeographed enough of certain materials for each child.

4. Other central depositories. Only two supervisors reported a Materials Bureau. One was under the direction of a full-time person, who was constantly alert and had the coöperation of the teachers and supervisory staff in finding new materials, securing those needed, and making such materials as were on hand readily available to teachers. The other bureau reported upon served a similar purpose but was under the direction of a group of teachers, who took turns in keeping it open. One of the supervisors also reported an Educational Service Bureau, but did not indicate its relation to the distribution of materials.

As stated before, the materials kept in the central offices are most frequently delivered by the school or library truck. The school truck also picks up the boxes and waste materials saved

by the stores and local manufacturing companies for the schools. Requests for waste materials are sometimes made by a representative of the Board of Education, at other times by the principals or individual teachers. Such materials are sometimes first delivered to the central office, some times directly to the school or teacher requesting. Mimeographed or duplicated materials are usually mailed or given out at teachers' meetings. The supervisor very often carries special materials to the schools she visits.

The classroom as the depository. Just the opposite to the centralizing tendency is found in some systems. Teachers are encouraged to keep all books and instructional materials suitable to the grade in the home room. They also send their orders direct to publishers and supply companies to eliminate transportation difficulties and unnecessary delay. As one supervisor expressed it, "Every room a workshop with proper books, equipment, and supplies is the goal in our system." Having all the materials used by a group located in the classroom should offer the children many worth-while experiences in organizing and filing materials so that there is a place for everything, everything is in its place, and is accessible to any child in the room. This necessitates the provision of such items as bought or homemade bookcases, supply cabinets, files and filing envelopes for printed materials and pictures, cards for indexing and distributing the wealth of materials which will be added at different times during the year.[1]

Materials bureau and other depositories.[2] Several stated that all general and special supplies, the need for which could be predicted ahead, were kept in the storage or materials room or rooms of each school. One of the county supervisors reported that a Materials Bureau had been established in each school building, the principal's office being utilized when no other space was available. This bureau was open for checking out materials one hour each day and had a very comprehensive card filing system whereby all available materials that would be useful in developing a center of interest could be located very easily. It also provided for the ready cataloging of new materials, which were usually added

[1] For fuller discussion of organization and care of materials, see Chapter VII, p. 141.
[2] The development of a Materials Bureau is discussed in Chapter VII (see p. 140).

when the borrowed materials were returned. The first grade teachers in one of the city systems have established a coöperative exchange shop. Boxes and cupboards are labeled with names of various discards, such as cloth, wood, boxes, etc., so that persons making donations or seeking help will have no difficulty. It seemed strange that no one mentioned other special service rooms in each school as the center for using or obtaining such materials as would be provided by a school library, music room, general work shop, science laboratory, or art studio.

Exchanging materials. Several supervisors implied that teachers were not only invited to use available materials and ask for others but were also asked to feel personally responsible for collecting and making available materials needed by themselves and others. For example, each teacher is asked to discover and report the environmental materials available in her locality. Excursions are planned to the different sources of worth-while materials. Sometimes the child is taken to the materials, as to a historical museum or fish hatchery; at other times the materials are brought into the schools, as a historical collection or frog and fish eggs for hatching.

A few stated that the pupils were encouraged not only to share the materials with each other in the room, but also with other groups in the school, in the system, and in other sections and countries. For example, a child's personal possession, as a new book or xylophone, is shared with children in the group; source books, encyclopedias, mimeographing machines, etc., are shared by the different groups in the same school; set of books, slides, files, etc., are shared with other schools in the system; and collections of materials of various kinds, such as an art exhibit or local museum, may not only be shared with other schools in the system but with other schools in other sections and countries.

Recommendations. The supervisor should use his influence to make all instructional materials easily accessible to the classroom teacher. This involves the problem of organizing and listing the books and materials that are already available in the classrooms as well as in the central and local depositories. Lists of available materials together with their location and specific

information for obtaining should be in the hands of each teacher concerned. Such lists to be really valuable should be kept up to date. Some plan should also be evolved which will stimulate teachers to coöperate with each other in collecting and sharing materials, thereby making a greater wealth of materials available with the minimum time and energy expended. For example, it would facilitate matters if a group of teachers coöperated in making a bibliography of all the reading materials in the local libraries that would aid in the development of units, or if they organized to survey the local community for environmental and waste materials.

Promoting More Efficient Use of Materials

What representative supervisors are doing to promote the efficient use of materials was organized under six headings, which will be discussed in the order of frequency mentioned, namely: through demonstrations, discussions, printed guides, exhibits, course of study, and intervisitation. This is followed by a brief summary of what supervisors think should be their responsibility in relation to improving the use of materials.

1. Through demonstrations. Approximately a third of the supervisors reported demonstrations as a means of promoting more effective use of materials. When the demonstration is for an individual teacher it is usually given by the supervisor, but when it is for a group of teachers it is more often given by a superior teacher who tells as well as shows the uses she is making of the materials. Two systems reported special demonstration schools and teachers for this purpose. In one case, a group demonstration was given for all teachers new to the system. Demonstrations are being used for the following purposes:

1. To initiate new materials correctly.
2. To show new uses for old materials.
3. To demonstrate how certain materials may be used for several purposes.
4. To substitute inexpensive for expensive materials.
5. To emphasize the use of materials on hand that teachers are not using.
6. To encourage teachers to use environmental materials.

2. *Through discussion.* During classroom visits, building and office conferences, the supervisor may capitalize many opportunities to promote more intelligent and more effective use of materials. Supervisors are taking advantage of these occasions for the following purposes:

1. Tell teachers of uses he has observed other teachers making of environmental, waste, or commercial materials.
2. Recommend materials most desirable for different purposes.
3. Refer the teachers to books and magazines or bulletins containing articles explaining the use of materials.
4. Acquaint them with the results of the experimental uses of materials in that system or elsewhere.
5. Help teachers to use materials available, making suggestions for finding and securing others.
6. Guide teacher's planning for the enrichment of her own classroom.
7. Explain the place of materials in the solution of teaching problems.
8. Suggest inexpensive substitutions and ways of making certain materials, such as filing cabinets or envelopes.

In a number of the systems, conferences and meetings of various groups are used to stimulate and encourage the use of materials. These conferences frequently utilize demonstrations followed by discussion. Such groups provide an opportunity for group thinking and acting on the more pertinent teaching problems involving materials. Since the topics for group discussion do not differ materially from those listed above for individual conferences, they will not be repeated here. The group conferences have the advantage of being more economical of supervisor's time than individual conferences and should be very stimulating because teachers have opportunity to see as well as hear what their fellow teachers are doing with materials under conditions similar to their own.

3. *Through printed and mimeographed guides.* Some of the supervisors prepare or utilize several types of guides, such as bulletins, lists, bibliographies, and supervisory letters, to supplement other means of improving the use of instructional materials. The following uses of printed suggestions were reported:

1. To guide teachers in the proper use of materials; for example, lesson prepared to aid pupils in use of dictionary, encyclopedia, etc.
2. To introduce new materials correctly.
3. To suggest uses of different illustrative and reference materials.

4. To guide teachers' and children's reading.
5. To follow up and emphasize suggestions given in individual or group conferences.
6. To acquaint teachers with uses of different kinds of environmental materials.
7. To suggest ways of filing and caring for materials.

4. Through exhibits. Displays of children's work in the room, in the supervisor's office, and at special exhibits are all considered valuable means of improving the use of materials. The use of materials in a unit of work is usually shown in the situation in which it was developed. The supervisors mentioned exhibiting children's work for the following purposes: to show the use of so-called waste materials, of new or unusual materials, new uses of old materials, uses of materials from primary sources, etc.

5. Through courses of study. A further aid to the use of materials is the course of study. It was reported not only as supplying teachers with excellent bibliographies and lists of desirable materials but also as giving illustrations, through units of work, of many clever and ingenious uses children have made of raw and environmental materials.

6. Through intervisitation. A few reported that directing teachers to visit schools where materials were used successfully had been their most valuable means. Special attention was directed not only to what materials were used and how, but also to the methods of filing and making available for use the various kinds of materials. One stated that the school custodians had been very helpful in making equipment for storing and filing materials systematically and conveniently. This had resulted from the suggestions of a teacher who got the idea from a visit to another system.

Recommendations. The following recommendations were made regarding the supervisor's responsibility for the proficient use of materials:

The supervisor should:

1. Help teachers organize and administer efficiently the materials available.
2. Eliminate waste of all kinds.
3. Encourage coöperative purchasing and using whenever possible.

4. Use a schedule to promote borrowing of rare or expensive materials in advance.
5. Suggest cheaper substitutes whenever advisable.
6. Induce teachers to make more use of the great wealth of environmental materials.
7. Give opportunities through demonstration, exhibits, and intervisitation for teacher to see materials used effectively.
8. Stimulate teachers to experiment with many creative uses of materials.
9. Report to teachers new uses of materials observed in the system or elsewhere.

Evaluating Materials in Terms of Child Growth

Evaluating materials in terms of their contribution to child growth and development cannot be done very scientifically, yet it would seem important enough to warrant careful attention because it is generally conceded that materials are instruments to be valued only as they contribute to that end. With this thought in mind, supervisors were asked to state what was being done in their system to evaluate the materials used. A few reported that they were making no attempt to evaluate the materials because they did not think it could be done, while a few others said they had not thought of attempting to try to evaluate them. The large majority, however, gave one or more means being used in their system. Each of those used will be discussed in the order of frequency with which it was mentioned, namely: subjective judgment of supervisors, principals, teachers, and the children themselves; standardized test results; individual and group progress records; and the results of experimentation.

Subjective evaluation. Although intangible results are not measurable, they are often the most important ones to be considered. This would seem to be especially true in the evaluation of instructional materials.

1. Supervisor's appraisal. Materials are most frequently evaluated by the supervisor or the supervisory staff. This was the only means reported by one-eighth of the supervisors. Many others use this means but supplement it by other subjective or objective measures. Several supervisors stated that when visiting the rooms they watched for and carefully recorded observations of children's use of materials, including: the children's interest in and attitude toward different materials; their increased ability

to use efficiently and the results obtained; and the value of the material in relation to educational objectives to be realized.

2. *Teacher appraisal.* Teacher's judgment was the second most frequently reported means used to appraise the materials in use. In a few cases the evaluations were made in terms of criteria prepared for the purpose. One reported that all the materials used in that system were evaluated by a mature committee in terms of criteria set up by the committee, based on the suggestions of recent investigations. Other supervisors secure only informal oral reports from teachers of the materials which seem to make changes in children's attitudes, habits, and attainments. Teachers' opinions were often obtained informally during the supervisor's visit to the classroom, but a few reported that group conferences were held in a room rich in the materials to be evaluated.

3. *Coöperative appraisal.* Since observations and opinions are very subjective, it would seem advisable to utilize the judgments of all those who have an opportunity to know the educational effect the different materials seem to have upon the children. The analysis showed that in several systems the materials were appraised jointly by the supervisors, principals, and teachers, those that did not seem to be valuable being discarded or revised.

4. *Pupil appraisal.* Only three supervisors reported the use of the children's opinions. One of these made the very significant statement that "the child himself is the best evaluator." Another said that they used the oral and written reports of the children when attempting to determine the value of the materials they used.

Standardized test results. Approximately one-fifth of the supervisors reported some use of standardized tests in evaluating materials. A few stated that standardized achievement tests were given at the beginning and at the end of the period in which the materials were being studied, but only one reported the use of a controlled group. The majority merely stated that standardized tests were being used to evaluate materials without giving any explanation of the use made. A few explained that the results of the testing program were diagnosed to determine the improvement made in the fields affected by the materials being appraised.

Only one mentioned the use of informal objective tests to supplement the standardized tests results.

Individual and group records. Some kind of record of child growth was reported as being used to evaluate materials in approximately one-tenth of the systems coöperating. The following different types of records were reported, but none with a frequency of over two: curriculum records, individual and group progress charts; daily logs of the use children make of different materials; records of failures; eliminations and retardation; informal records of children's remarks. Only one reported using samples of children's work, filed at infrequent periods during the time the materials were used, as an aid in estimating their value.

Experimentation. As one supervisor suggested, the value of materials can best be determined by experimental research, using the schoolroom as a laboratory. Even then many of the evaluations must be largely subjective because so many of the things which are basic to child growth cannot be adequately measured by any of the instruments now available. Only five supervisors, however, reported the use of research in evaluating materials. One of these pointed out the difficulties of attempting to control the variables when using equivalent group method for this purpose. Another said that because of the difficulties entailed they were not attempting any local research, but that they were studying all research findings regarding instructional materials and calling them to the attention of the teachers. This last suggestion would certainly be possible in any system and should aid in setting up criteria for the subjective evaluation of materials.

Recommendations. A large number of supervisors thought they should be responsible for getting for the schools the materials that best further the development of the children. This will necessitate the constant evaluation of all materials in use and the careful investigation of new materials before introducing. Materials already in use should be carefully checked by all teachers using them, and their effectiveness frankly discussed. Superior teachers should not only be encouraged to experiment with recommended material before they are introduced into the

system but they should also be encouraged to develop, experimentally, better instructional materials along the line in which they are gifted.

Summary

The practices and recommendations of the sixty representative supervisors are summarized, separately. The first section gives a brief review of what supervisors are doing to provide better and more adequate instructional materials in their system. The second section summarizes their opinions of what should be the supervisor's responsibility for the improvement of the materials of instruction and how this responsibility can best be met. In both sections frequency rank determines the order of naming.

What supervisors are doing. The means supervisors are using to improve instructional materials are given along eight lines, namely, determining the materials needed; making teachers aware of the educational value of different materials; finding best sources; selecting materials desired; securing those most needed; making them available to teachers; promoting efficiency in using; evaluating in terms of results obtained.

1. Although a few supervisors work single-handed, the majority utilize the coöperation of many people in determining the instructional materials most needed. The means used are: observation by the supervisor during visits; suggestions and requests of teachers; analysis of weaknesses in educational results; a study of curriculum records; pupils' reading records and reports; and experimental use of the materials.

2. Supervisors are developing an awareness of the educational value of the different materials in the following ways: through group conferences; demonstrations of new and better uses of available materials; helping teachers solve the material problems met in larger unit teaching; appointing special committees to study and report on the value of different materials recommended for use; encouraging intervisitation to appraise materials in use; arranging teacher excursions and trips to places rich in raw and source materials; exhibiting and circulating new commercial and environmental materials.

3. The problem of finding the best sources of materials has been increased by three things: the important place of materials in modern schools, the rapidly growing number of publishers, and the multitudinous materials published. Supervisors are attempting to find which are the best producers of the commercial materials needed by: studying exhibits; using lists of materials found in professional books and magazines; studying advertisements; analyzing curriculum records; and interviewing representatives of publishers, teachers, principals, other supervisors, and specialists in the fields in which materials are needed.

Although much less attention is being given to locating environmental materials, several excellent means are used by a few supervisors, namely, making a systematic survey of the entire community; providing teachers and parents with guides for school excursions and pleasure trips; encouraging children to become scouts, constantly on the lookout for new and better materials.

4. Materials of instruction are selected by the following individuals or groups: the supervisor, assisted by principals and teachers; the supervisory staff; the supervisor of the department affected; a committee appointed for the purpose; the curriculum committee; and authorities outside the system. The following means are used to aid in the selection of instructional materials: opinions of local groups; exhibits and discussion of different materials for similar purposes; lists of recommended materials; experimentation; and the opinion of specialists.

5. To secure more and better instructional materials, the supervisors are soliciting the help and coöperation of the following: board of education, principals, teachers, parents, children, and various organizations, agencies, and commercial firms. Four general means are used in securing the materials needed: purchasing, collecting, making, borrowing or exchanging and other means of sharing. Collective ownership of the more expensive materials is encouraged and sometimes groups coöperate in securing collections of rare, unusual materials.

6. There is a decided tendency to locate centrally and circulate much of the instructional material. The following central de-

positories are being utilized in order to make the materials easily accessible to all teachers: a general school supply room or depot; a circulating central library; the supervisor's office; a materials bureau; and an educational service bureau. These central depositories often serve not only as a source of materials but also as a medium for exchanging materials within the system and with other systems.

7. Supervisors are utilizing various means to promote more efficient use of the materials available, namely: demonstrations of various kinds; group discussions and criticism; guides prepared to help both teachers and pupils use certain materials correctly and efficiently; exhibits showing the various services certain materials can render; course of study suggestions and guidance in the use of materials; and sending teachers to visit schools in which materials are used widely and successfully.

8. Many of the supervisors are not making any definite attempt to evaluate the materials that are now in use. Where evaluations are made, they are frequently largely subjective, being based on the opinion of the supervisor or the supervisory staff. In a few systems the materials are appraised, coöperatively, by organizing the judgments of supervisor, principal, teachers, and the children themselves. Only a very few of the supervisors reported using such objective means of evaluation as standardized tests, curriculum records, or controlled experiments.

Recommendations of supervisors. Without an exception the sixty respondents thought the supervisors had a responsibility for the improvement of the materials of instruction. Some considered it the supervisor's greatest responsibility and also his greatest opportunity. Several stated that the supervisor should assume the same responsibility for the improvement of materials in the system that the teachers do for the materials in the classroom. One suggested that if the supervisors were given the responsibility for the improvement of materials, they would take a whole-hearted interest in it and in most cases do a good job.

It was the general consensus of opinion that the supervisor could best meet this responsibility through the intelligent cooperation of those concerned. Some suggested that it be met

through the principals; others, through the teachers; others, through principals and teachers; and still others, through committees which would capitalize the knowledge of the whole staff. This will doubtless depend in a measure on the organization of the system, but the task should be undertaken, coöperatively, by those affecting or affected by the materials used.

It was recommended that the improvement of materials of instruction be directed along three lines: (1) to meet the needs of the changing school program; (2) to comply with research findings regarding children's interests, needs, and abilities; (3) to be adapted to individual differences.

The following ways were suggested whereby the supervisor or supervisors in coöperation with others may improve instructional materials:

1. Coöperate with state and national committees that are experimentally preparing materials.

2. Stimulate the discovery and development of new materials by local groups.

3. Coöperate with publishers in the preparation of better materials by letting them know which materials prove unsatisfactory and by acquainting them with educational needs that have not been met.

4. Write materials that are useful to teachers and children.

5. Welcome the suggestions and contributions of all toward the improvement of materials.

APPENDIX

APPENDIX

I. BIBLIOGRAPHIES OF SOURCES OF SUPPLEMENTARY TEACHING AIDS

Compiled by ELEANOR M. DYE and ETTA SCHNEIDER

In choosing this list of titles, the compilers have taken into consideration the price, educational value, and date of publication. In a few cases titles have been repeated where they were found to apply to more than one school subject. The lists that are included have been compiled, for the most part, by specialists in each field. Those teaching aids that can be used with a number of school subjects have been arranged in one group, while those that apply only to special subjects have been arranged under those headings.

GENERAL

Davis, Mary Dabney. "Pictures, Posters, Bulletins, and Other Materials Available from Non-Commercial Organizations." *School Life,* 20:88-89 (December, 1934). A revised compilation.

Additional copies of this very helpful chart may be obtained free from the U. S. Office of Education, Washington, D. C.

"Free and Inexpensive Material." *The Booklist,* 31:88 (November, 1934).

A list of pamphlets and other publications on topics of general interest. Could be used by all teachers for extra-curricular activities.

Hansen, Rowena. *Helps for Teachers.* U. S. Office of Education.

Iowa State College, "Exhibits from Commercial Sources." Ames, Iowa, Visual Instruction Service. (Mimeographed.)

List of dealers and manufacturers of equipment and visual aids.

Knox, Rose B. *School and Equipment: A Guide to Materials and Equipment for Elementary Schools.* Houghton, 1927.

Sources of materials and suggestions for their use.

Letton, M. C. (comp.) "List of Some Free Material Obtainable upon Request." *Nebraska Educational Journal,* 12:296-298 (June, 1932). Also in *School and Community,* 18:150-157 (March, 1932).

Library Journal. R. R. Bowker Co., 62 West 45th St., New York, N. Y. $5.00.

Lists appear from time to time of booklets, pamphlets, and posters that are available free or for a small charge.

List of Free and Low Cost Educational Materials for Elementary Grades, A. Peabody College for Teachers, Nashville, Tenn., 1933.

Richmond, Edna. *Materials of Instruction Which May Be Obtained Free or at Small Cost.* The Author, Fairmont, West Va., 1930. 75¢.

Materials listed are mainly from commercial companies, and "have actually been used by some teacher or group of children where money was scarce and supplies were not furnished."

School Life. Official organ of U. S. Office of Education. September through June. Superintendent of Documents, Government Printing Office, Washington, D. C. $1.00.

New government films, lantern slides, and other teaching aids listed each month. "New Government Aids for Teachers," a column by M. F. Ryan, is also useful.

Smith, Homer J. "Teaching Aids for the Asking: A Selected Classified and Annotated List of Informational Booklets Offered Free or at Small Cost by Manufacturers and Sales Organizations." Minneapolis: University of Minnesota Press, 1928. 50¢.

Five hundred items of value to teachers of geography, industrial subjects, and general science.

Vertical File Service. H. W. Wilson Co. Issued monthly and cumulated with annual volume. Subscription rates available upon request. Used in libraries.

This service includes lists of materials that are obtainable free or at small cost from commercial firms.

Wilson Bulletin. H. W. Wilson Co. $1.00.

Lists of pamphlets and posters that may be obtained free or at a small cost.

MOTION PICTURES AND OTHER VISUAL AIDS

Brown, E. H. and Bird, Joy. *Motion Pictures and Lantern Slides for Elementary Visual Education.* Teachers College, Columbia University, 1931. $1.00.

A carefully annotated list of motion pictures and lantern slides.

Dent, Ellsworth C. *Handbook of Visual Instruction.* Provo, Utah: Brigham Young University, 1934. $1.50.

Includes a guide to sources of motion pictures and other visual aids. The author has planned to revise the handbook every two years.

Dorris, Anna Verona. *Visual Instruction in the Public Schools.* Ginn, 1926. $2.64.

In latter part of book sources of motion pictures for classroom use are given.

Educational Screen. Educational Screen, Inc. $2.00.

This magazine contains, besides general articles and bibliographies, a trade directory and reviews of current films.

"1000 and One." The Blue Book of Non-Theatrical Films. Edited by Nelson L. Greene and others. 10th edition. Educational Screen, Inc., 1934. 75¢.

"Source book of the best educational films obtainable free, for rental, or for sale. Films cover most of the subjects of the curriculum."

Hollis, Andrew P. *Motion Pictures for Instruction.* Appleton-Century, 1926. $3.00.

"Part II gives a comprehensive list of 1,500 educational films, with descriptive notes—classified as free, rental, and purchase films. Very useful."

Industrial Education Films. This monograph, containing a list of films with the cost, width, number of reels, description and place from which each may be obtained, is the result of an investigation made by students in the Nashville, Tennessee, Department of Industrial Education. George Peabody College for Teachers, 1933. 50¢.

Jones, Amy Heminway. *Motion Pictures on Foreign Countries and on International Relations.* Carnegie Endowment for International Relations, 405 West 117th Street, New York, N. Y.
Films are annotated and rates given.

Koon, Cline M., Gregg, Abel J., and Tilson, Agnes. *A List of Motion Picture Films for Parent Education.* U. S. Office of Education, June, 1934.
This booklet contains excellent comments for each film, and conditions under which various distributors issue them. Among the films listed are several suitable for safety education, health education, child psychology, and care of children.

———. *Motion Pictures in Education in the United States.* University of Chicago Press, 1934. $1.50.
Besides being an excellent summary of the uses of the motion picture, this book contains lists of distributors of various kinds of motion pictures.

Lathrop, Edith A. "Government Agencies Supplying Visual Aids." *National Elementary Principal,* 13:460-469 (June, 1934).

Pennsylvania. State Department of Public Instruction, Harrisburg. *Sources of Free Slides and Films.*
This list of aids is not graded or evaluated. There are supplementary leaflets for English, Geography, Health and Physical Education, History, and Science—all listed elsewhere in this compilation.

———. *Sources of 16mm Films.*
These include free and rental films.

Persing, Ellis C. "Sources of Teaching Aids." *National Elementary Principal,* 13:474-476 (June, 1934).
The eleven "master lists" given at the end of this article are helpful.

Victor Animatograph Corporation, Davenport, Iowa. *Directory of 16mm Film Sources Distributed Free.*
Contains a most complete listing of educational films, and should be in the hands of every teacher interested in motion pictures.

Weber, Joseph J. "Bibliography of the Use of Visual Aids in Education." *Educational Screen,* 9:29-31, 61-63, 93-95, 123-127, 155-159, 187-191 (January to June, 1930).
This lists government bureaus and commercial companies that distribute educational films, slides, and equipment.

Woodring, Maxie Nave, Jewett, Ida A., and Benson, Rachel T. *Enriched Teaching of English in the Junior and Senior High School.* Teachers College, Columbia University, 1934. $2.75.
Contains a list of distributors of educational films. See especially "Museums," as sources of visual aids, on page 275.

Y. M. C. A. Motion Picture Bureau, 347 Madison Avenue, New York, N. Y. *Selected Motion Pictures.*
Lists many free scientific, geographic, travel, vocational, educational, and industrial films. This Bureau acts as distributor for many companies.

RADIO PROGRAMS FOR SCHOOLS

Information on radio in education may be obtained from Dr. Cline M. Koon, Senior Specialist in Education by Radio, U. S. Office of Education, Washington, D. C.

Columbia Broadcasting System, 485 Madison Avenue, New York, N. Y. *American School of the Air, Teachers' Manual,* 1934-35.

This manual, in addition to information for teachers in connection with their American School of the Air series, lists on page 64 "Network Programs of Educational Interest."

"Educational Broadcasts." *California Schools,* 6:15-18 (January, 1935).

This is a list of programs available to California schools.

Koon, Cline M. "Electrifying Education." *School Life,* 20:39 (October, 1934).

This periodical includes information on radio programs in each month's issue. This particular reference, however, lists sources of information on the educational broadcasts available.

National Broadcasting Company, 30 Rockefeller Plaza, New York, N. Y. *Educational Bulletin.*

Lists all educational programs of this network.

National Education Association, Department of Superintendence, Radio Committee. *Radio Calendar,* Winter, 1935.

Lists all the educational and cultural programs being offered at the time in the United States.

Radio Institute of the Audible Arts (Pitts Sanborn, Director), 254 Fourth Avenue, New York, N. Y.

This newly formed organization has just issued a list of musical programs and talks for discriminating listeners. The organization plans to distribute lists of programs for various subjects.

Rhode, E. G. "Radio in the School Program." *Sierra Educational News,* 29:36-39 (March, 1933).

This article lists the programs from which educational value may be derived, as well as those organizations which issue booklets in connection with their broadcasts.

SCHOOL SUBJECTS

Commercial Subjects

Deal, Don T. *Teaching Materials in Elementary Business Education.* Cincinnati, Ohio. South Western Publishing Co. 1934.

This is a very complete source list of all the essential information needed for obtaining each visual aid. Many phases of business education are considered, e.g., banking, insurance, office work, communication, etc.

Woodring, Maxie Nave, and Harold, Gilbert. *Enriched Teaching of Commercial Subjects in the High School.* Teachers College, Columbia University, 1930. $2.50.

"Source book for teachers of bookkeeping, shorthand, typing, commercial geography, etc., listing chiefly free and low cost illustrative and supplementary materials."

English

Goodall, Margaret Bannard. "Some Sources of Enrichment for English Teachers." *The High School,* 7:3-6 (November, 1929).

New York City, Department of Education, Bureau of Libraries. "Material for Exhibition Purposes." (In *Handbook of the Junior High School Librarian of New York, N. Y.,* 1933, p. 29.)
May be used by teachers of literature, as well as by librarians.

———. "Illustrative Material Used in Advertising Books." Same handbook, p. 30.
Valuable sources of aids for teachers of literature.

Pennsylvania, State Department of Public Instruction, Harrisburg. *Sources of Visual Aids in English.*

Sterrett, Carrie Belle. "Teaching of High School English." *Bulletin of State Department of Education of Texas,* No. 241 (October, 1929).
"A compact handbook of materials and methods. . . . May be had free from the Texas Department of Education, Austin, Texas."

Woodring, Maxie Nave, Jewett, Ida A., and Benson, Rachel T. *Enriched Teaching of English in the Junior and Senior High School.* Teachers College, Columbia University, 1934. $2.75.
A partial list of contents: Book Lists, Book Reports, Career Planning, Composition, Correlation, Courses of Study, Dramatics, Equipment of English Laboratory, Excursions, Literature, Museums, Motion Pictures, Radio, Music and English, Practice Tests and Exercises, Projects and Units, Speech, Spelling, Travel, World Friendship, Extra-Class Activities, Libraries.
For each of these the supplementary teaching aids are specifically annotated. This book should be in the hands of every teacher.
Lists chiefly free and low cost illustrative and supplementary materials.

Fine Arts

Glick, Annette. "Making History Real: A Guide to Material for Visualizing and Vitalizing History." *Historical Outlook,* 17:382-385, 18:29-37, 18:64-82 (December, 1926–February, 1927).
European and American sources given for pictures that may be used in art education.

Horton, Ann V. "Sources of Picture Materials." *National Elementary Principal,* 13:470-473 (June, 1934).
Especially good for art education.

"Sources of Pictures and Other Illustrative Material," Madison, Wis.: Bureau of Visual Instruction, University of Wisconsin. Mimeographed.
Most of the material listed is suitable for art education.

"Sources of Pictures for Fine Arts." *Standard Catalog for High School Libraries.* H. W. Wilson Co., 1932.
"Covers a wide range of pictures and illustrative material at all prices. There also follows a list of firms distributing pictures on subjects other than art."

Woodring, Maxie Nave, and Sabin, F. E. *Enriched Teaching of Latin in the High School.* Teachers College, Columbia University, 1930. $1.50.
Books, pictures, costumes, casts are especially good for the study of Roman art.

Foreign Languages

Cru, Albert L. *Suggestions and Bibliography for the French Club.* Teachers College, Columbia University. Mimeographed.
Source list of supplementary teaching aids for French.

Pattee, Edith B. "Equipment for Teaching of Latin, French, Spanish and German." *The High School,* 7:11-14 (November, 1929).

Woodring, Maxie Nave, Jewett, Ida A., and Benson, Rachel T. *Enriched Teaching of English in the Junior and Senior High School.* Teachers College, Columbia University, 1934. $2.75.
Many supplementary aids are suggested in connection with the literature of foreign countries.

Woodring, Maxie Nave, and Sabin, F. E. *Enriched Teaching of Latin in the High School.* Teachers College, Columbia University, 1930. $1.50.
"This material includes books, pictures, costumes, casts, clubs, travel, topics for reading, projects on Roman life, and Latin words in English speech."

Geography

Booth, Mary Josephine. *Material on Geography, Including Commercial Products, Industries, Transportation and Educational Exhibits Which May Be Obtained Free or at Small Cost.* 5th ed., rev. The Author, Charleston, Illinois, 1931. 50¢.
"This excellent guide to sources of geography material has been completely revised. In most cases one dollar is the price limit for materials."

Gregory, W. M., and others. "Materials for Visual Instruction in Geography." *National Society for the Study of Education,* 32nd Yearbook, pp. 385-394. Public School Publishing Co., 1933.

Kilcullen, Mae T. *Materials for Methods of Geography Teaching, Effective Map Usage Simplified.* Chicago: Weber Costello Co., 1931. $1.25.

Pennsylvania. State Department of Public Instruction, Harrisburg. *Sources of Visual Aids in Geography.*

Health and Physical Education

"Free and Inexpensive Health Publications." *Department of Elementary School Principals Bulletin,* 10:695-701 (July, 1931).

Hoar, Franklin B. "Compilation of Visual Aids for Health and Physical Education." *Journal of Health and Physical Education,* 3:40-42 (April, 1932).
At the end of this compilation is a directory of film sources, with conditions under which they may be obtained. Very good and up-to-date.

Pennsylvania. State Department of Public Instruction, Harrisburg. *Sources of Visual Aids in Health and Physical Education.*

Woodring, Maxie Nave, and Schwendener, Norma. *Enriched Teaching of Physical Education in the High School.* Teachers College, Columbia University, 1929. $1.50.

"Teachers, supervisors, administrators wanting and needing carefully selected sources, materials and references in teaching and supervision of physical education will find in this book one of the best aids for enrichment of teaching of physical education. A carefully selected list is presented of publications and materials both new and the 'tried and true' classified so that reference material for various activities can be quickly and easily found."

History

Glick, Annette. "Making History Real: A Guide to Material for Vitalizing and Visualizing History." *Historical Outlook,* 17:382-385, 18:29-37, 18:64-82 (December, 1926–February, 1927).

Use of European and American sources for models, maps, posters, films, and prints. Good annotations.

Pennsylvania. State Department of Public Instruction, Harrisburg. *Sources of Visual Aids for History.*

"Pictorial Maps Useful in the Study of United States History." *Wilson Bulletin,* 7:121-123 (October, 1932).

A list of maps: general and regional; state and district; one source is given for each, together with the size and price.

Shaver, E. F. "Helpful Hints for History Teachers." *Historical Outlook,* 21:227-231 (May, 1930).

Source list of maps, slides, tests, and other visual aids.

Tryon, R. M. "Historical Material of a Geographic Nature, Suitable for History Classrooms and Laboratories." *Historical Outlook,* 18:124-142 (March, 1927).

These sources have been sub-divided according to American history, ancient, early European, etc. No prices or descriptions furnished.

Home Economics and Household Arts

Blunt, Katherine (ed.). *Art in Home Economics.* University of Chicago Press, 1925.

Includes lists of pamphlets, magazines, and illustrative material given for the various phases of home economics, e.g., history of costume, furniture, architecture, etc.

"Educational Material from Various Sources." *Practical Home Economics,* 10:283-292 (September, 1932).

"A service organized to assist teachers in obtaining educational material published by manufacturing concerns. Material is free, unless a charge is stated."

Industrial Arts

Industrial Arts Coöperative Service, 519 West 121st Street, New York, N. Y.

A center where information may be obtained in regard to materials required to carry on projects in hand work which bear directly upon the industrial field.

Industrial Education Films. This monograph, containing a list of films with the cost, width, number of reels, description, and place from which each may be obtained, is the result of an investigation made by students in the Nashville, Tennessee, Department of Industrial Education. George Peabody College for Teachers, 1933. 50¢.

Manzer, E. W. "Visual Instruction in Industrial Arts Education." *Industrial Arts and Vocational Education,* 21:233-235 (August, 1932).
Lists sources of industrial films and describes techniques for using them.

Mathematics

Moore, R. U. "Aids to Mathematics Teachers." *The High School,* 7:9-11 (November, 1929).
"Attempts to point out some of the material listed in Woodring's Source Book (see below), which is of particular value to high school mathematics teachers. Other suggestions are made which are the result of experience." A bibliography is included.

Woodring, Maxie Nave, and Sanford, Vera. *Enriched Teaching of Mathematics in the High School.* Teachers College, Columbia University, 1928. $1.50.
"This book has been compiled to provide teachers with lists of illustrative materials drawn from many fields." May be used for elementary and junior high schools.

Music

Music Appreciation Course, conducted by Walter Damrosch. Instructor's manual. National Broadcasting Co., 30 Rockefeller Plaza, New York, N. Y., 1934.
This manual contains suggestions for supplementary activities, and a bibliography.

University of Minnesota, *Radio Course in Music Appreciation.* Station WLB, Minneapolis, Minn., 1935. Free.
In this teacher's manual is included a list of books and materials to be used in connection with the broadcasts.

Woodring, Maxie Nave, Jewett, Ida A., and Benson, Rachel T. *Enriched Teaching of English in the Junior and Senior High School.* Teachers College, Columbia University, 1934. $2.75.
See listing under Music and English.

Science

Colvin, R. B. "Advertisements as Teaching Aids in General Science." *School Science and Mathematics,* 34:79-83 (January, 1934).

Frank, J. O. *How to Teach General Science.* The Author, Oshkosh, Wisconsin, 1926. $2.00.
"Appends a very extensive list of free and inexpensive materials for science."

Hurley, Richard J. "Bibliography of Astronomy and Meteorology." *Wilson Bulletin,* 9:367-368 (March, 1935).
One section of the bibliography is devoted to inexpensive supplementary teaching aids of recent publication.

Means, E. R. "Sources of Teaching Helps in Science." *The High School,* 7:6-9 (November, 1929).
Includes (a) other lists of sources, (b) commercial firms, local firms, (c) film strips and film sources, (d) lists of tests, (e) periodicals, (f) books and pamphlets.

Pennsylvania. State Department of Public Instruction, Harrisburg. *Sources of Visual Aids for Science.*

Pruitt, C. M. "Science Reading Material for Pupils and Teachers." *Science Education,* 16:38-46, 116-124, 201-208 (October and December, 1931, February, 1932).

Roller, Duane E. "Free and Inexpensive Science Equipment." *School Science and Mathematics,* 27:34-39 (January, 1927).
Extensive list of catalogs, pamphlets, charts, exhibits, slides, and films.

Woodring, Maxie Nave, Oakes, M. E., and Brown, H. W. *Enriched Teaching of Science in the High School.* Teachers College, Columbia University, 1928. $2.75.
"Decidedly the most comprehensive up-to-date, classified annotated list of supplementary materials in science with sound advice for its use and care."

Social Studies

Bassett, M. E. "Some Sources of Visual Aids and Materials in Social Studies." *Connecticut Schools,* 12:18-20 (March, 1931).

McFadden, D. L. "Visualizing Pre-Historic Life." *Educational Screen,* 10:39-41 (October, 1931).
A source list of materials, and a bibliography.

Rothwell, C. E. "Supplementary Materials in the Social Studies." *The High School,* 7:15-21 (November, 1929).
Annotations excellent, list extensive.

(See also Geography, History, General, Motion Pictures and Other Visual Aids.)

Vocational Guidance

Woodring, Maxie Nave, Jewett, Ida A., and Benson, Rachel T. *Enriched Teaching of English in the Junior and Senior High School.* Teachers College, Columbia University, 1934. $2.75.
Sources of materials for use in vocational guidance programs are listed on pages 15-21 of this book.

Bennett, Wilma. *Occupations and Vocational Guidance: A Source List of Pamphlet Material.* H. W. Wilson Co., 1934. $1.25.
"Pamphlets arranged by publishing agency with a subject index which will provide easy access to all material on any one field or vocation."

PERIODICALS MENTIONED IN BIBLIOGRAPHY

Booklist. American Library Association, 520 North Michigan Ave., Chicago, Ill.

Bulletin of the Department of Elementary School Principals. Changed to *National Elementary Principal* (see below).

California Schools. Q. R. Waterman, editor. State Department of Education, Sacramento, California.

Connecticut Schools (discontinued). Connecticut State Board of Education, Hartford, Conn.

Department of Elementary School Principals Bulletin. See *National Elementary Principal.*

Educational Screen. 64 East Lake St., Chicago, Ill.

The High School (discontinued). School of Education, University of Oregon, Eugene, Ore.

Historical Outlook. McKinley Publishing Co., 1021 Filbert St., Philadelphia, Penn. (Name changed to *Social Studies,* 1934.)

Industrial Arts and Vocational Education. Bruce Publishing Co., 524-544 N. Milwaukee St., Milwaukee, Wis.

Journal of Health and Physical Education. American Physical Education Association, 311 Maynard St., Ann Arbor, Mich.

Library Journal. R. R. Bowker Co., 62 West 45th St., New York, N. Y.

National Elementary Principal. Department of Elementary School Principals, National Education Association, 1201 16th St., N.W., Washington, D. C. (Formerly *Bulletin of the Department of Elementary School Principals.*)

Nebraska Educational Journal. Nebraska State Teachers Association, 605 S. 14th St., Lincoln, Neb.

Practical Home Economics. Lakeside Publishing Co., 468 Fourth Ave., New York, N. Y.

School and Community. Missouri State Teachers' Association, Columbia, Mo.

School Life. Superintendent of Documents, Government Printing Office, Washington, D. C.

School Science and Mathematics. W. F. Roecker, 3319 N. 14th St., Milwaukee, Wis.

Sierra Educational News. California Teachers Association, 155 Sansome St., San Francisco, Calif.

Social Studies. McKinley Publishing Co., 1021 Filbert St., Philadelphia, Penn. (Formerly *Historical Outlook.*)

Vertical File Service. H. W. Wilson Co., 950-972 University Place, New York, N. Y.

Wilson Bulletin. H. W. Wilson Co., 950-972 University Place, New York, N. Y.

II. BIBLIOGRAPHIES OF BOOKS FOR CHILDREN AND YOUTHS

•*Around the World in Books.* University of the State of New York.
A list of recent books with foreign background.

Bibliographies of Interest to School Librarians. (Rev. ed.) American Library Association, 1934.
A master list of bibliographies compiled under the direction of the bibliography committee of the School Library Section of the American Library Association.

Books for Home Reading for High Schools. National Council of Teachers of English, 1930.

•*Books for the Elementary School Library.* State Department of Education, Baltimore, Maryland, 1926.

Boy's Book List, A. American Library Association, 1928.

•Brandt, Rose K. (comp.). *Books on Indians and Indian Life.* Washington, D. C.: Office of Indian Affairs, U. S. Department of the Interior.

•*Children's Library Yearbooks.* American Library Association. (Compiled by the Committee on Library Work with Children.)

Dalgliesh, Alice. *Recently Published Books for Children of All Ages.* New York: *Parents' Magazine,* 1934. Free. (Compiled for *Parents' Magazine* by the editor of the department, "Books for Boys and Girls.")
A selective though incomplete list.

———. *Books for Boys and Girls.* New York: School Library Laboratory, Teachers College, Columbia University, 1933. 5¢.
A selected list of books for 1933.

•Davis, Mary Gould (comp.). *American Folktales.* American Library Association.

•———. *American Stories for Younger Boys and Girls.* American Library Association.

•———. *American Stories for Older Boys and Girls.* American Library Association.

•*Fiction, Recent and Standard in Inexpensive Editions.* University of the State of New York.
Books are one dollar or less.

• Starred bibliographies are referred to in Chapter III or illustrated there by selected titles.

Fifty Books for Non-Readers, Boys. Board of Education, Bureau of Libraries, 215 East 41st St., New York City, 1934.

Fifty Books for Non-Readers, Girls. Board of Education, Bureau of Libraries, 215 East 41st St., New York City, 1934.

Garrison, S. C., and Hackworth, Lecter. "A Comparison of Ten Book Lists for Children's Reading." *Peabody Journal of Education,* 9:102-111 (September, 1931).

Presents a list of books for each grade, from one to eight inclusive, that are recommended in as many as four or more of ten graded book lists.

Girl's Book List, A. American Library Association, 1928.

Gold Star List of American Stories, 1821-1933. Syracuse, N. Y.: Public Library, 1933.

**Good Books for Bad Eyes.* University of the State of New York.

A list of books suitable for children with seriously defective vision.

Guide to Inexpensive Series. American Library Association, 1932.

Inexpensive Books for Children. Child Study Association of America, 221 West 57th St., New York, N. Y., 1933 (rev.). 10¢.

Suggested titles priced at one dollar or less.

Knight, Ella B. *A Bibliography of Geographical Literature for Elementary Grades and Junior High Schools.* Worcester, Mass.: Department of Geography, Clark University, 1928 (sec. rev.). 25¢.

*Leary, Mary Warren (comp.). "Things to Do and Make." *Classroom Literature,* March, 1934. Library, Teachers College, Columbia University.

Classroom Literature is a monthly bulletin listing books on particular topics of interest to children.

**Leisure Reading for Grades Seven, Eight, and Nine.* National Council of Teachers of English, 1932.

Logasa, Hannah. *Historical Fiction and Other Reading References for History Classes in Junior and Senior High Schools.* McKinley Publishing Co., 1930.

*Moore, Anne Carroll. *The Choice of a Hobby.* Compton, 1934.

A unique descriptive list of books offering inspiration and guidance to hobby riders and hobby hunters.

*Parks, Martha et al. (comp.). *Selected List of Books About Negro Life Recommended for Use in Elementary Schools.* Nashville, Tenn.: Division of School Libraries, State Department of Education.

*Powers, Olive E. (comp.). *A List of Books Used Successfully with Mentally Retarded Children.* Pittsburgh, Pa.: Greenfield Elementary School.

**Recent Books for Elementary and Junior High Schools.* University of the State of New York, 1934 (rev.).

Reed, Mary Maud. *The Beginning of the Social Sciences.* Scribner's, 1932.
Includes bibliographies.

**Reference Books for Junior and Senior High School Libraries.* University of the State of New York, 1932 (rev.).

Schmidt, Meta. *Five Hundred Books for the Senior High School Library.* American Library Association, 1930.

Science Booklists, Nos. 1-27. Washington, D. C.: American Association for the Advancement of Science, care Smithsonian Institute, 1931, 1932. 30¢ set.
This is a series of 27 bibliographies, each dealing with a single field, as Insect Life, The Sea and Shore, Chemistry of Today, The Wind and the Weather, etc. "These lists have a three-fold object: (1) to select and describe a few authentic and especially interesting books acceptable to the 'general reader'; (2) to supplement these with several introductory treatises in understandable style; (3) to suggest a group of textbooks for more advanced study by ambitious amateurs, or persons studying by themselves."

**Social Studies Books for Even Years: A List to Be Used with The Handbook for Rural Elementary Schools, 1934.* University of the State of New York, 1934.

*Terman, L. H., and Lima, Margaret. *Children's Reading.* Appleton-Century, 1931 (2nd ed.). $2.00.

**Understanding Our World.* University of the State of New York.
Social studies books for rural teachers and older pupils.

Van Cleve, Jesse Gay. *Recent Children's Books.* American Library Association, 1933.

———. *Recent Children's Books.* American Library Association, 1934.
For younger children; for older boys and girls.

Washburne, C. W., and Vogel, Mabel. *Winnetka Graded Book List.* American Library Association, 1926. $1.75.

———. "Supplement to Winnetka Graded Book List." *Elementary English Review,* 4:47-52, 66-73 (February, March, 1927). (Also published by Winnetka Public Schools, Illinois.)

Wesley, Edgar Bruce. *Bibliographies for Teachers of the Social Studies.* McKinley Publishing Co., 1932.

*Westervelt, Gretchen (comp.). *A List of Books on Making and Doing.* Albany: New York State Education Department.

*Williams, Alice and Westervelt, Gretchen (comp.). *Good Ten Cent Books for Children.* Albany: New York State Education Department, 1934.

III. BIBLIOGRAPHY OF STUDIES OF READING INTERESTS AND ACTIVITIES OF CHILDREN

Bamberger, F. E. *Effect of Physical Make-Up of a Book upon Children's Selection.* Johns Hopkins University, 1922. $2.00.

Bamberger, F. E., and Broening, A. M. *Guide to Children's Literature.* Johns Hopkins University, 1931. $1.75.

Bell, J. C., and Sweet, I. B. "Reading Interests of High School Pupils." *Journal of Educational Psychology,* 7:39-45 (January, 1916).

Coxe, Warren W., "Scientific Literature on the Reading Interests of School Children." *Library Journal,* 57:9-15 (January 1, 1932).

Summarizes in untechnical terms the results of various studies relating to the reading interests of children.

Danielson, C. L. "Magazine Reading of Children of Superior Mental Ability." *Educational Research Bulletin,* December, 1926, pp. 7-9. Los Angeles City Schools.

Dunn, F. W. *Interest Factors in Primary Reading Material.* Teachers College, Columbia University, 1921. (Out of print.)

Garnett, W. L. "A Study of Children's Choices in Prose." *Elementary English Review,* 1:124 (June, 1924).

Gates, Arthur I. *Interest and Ability in Reading,* Part One. Macmillan, 1930.

Grant, Emma Blakely. *Reading Interests Compared with the Content of School Readers; A Study of Reading in the Primary Grades.* Teachers College, Columbia University, 1925.

Hermans, Mabel C. "Utilizing Adolescent Interests." *Educational Research Bulletin,* 10. Los Angeles City Schools.

Reports the results of survey of the dominant interests of 1,908 junior high school pupils and interprets the findings in terms of a reconstructed course in English.

Huber, M. B., Bruner, H. B., and Curry, C. M. *Children's Interests in Poetry.* Rand McNally, 1927. $1.75.

Huber, M. B. *The Influence of Intelligence upon Children's Reading Interests.* Teachers College, Columbia University, 1928. (Contributions to Education, No. 312.)

Huber, M. B., and Chappelaer, C. S. "Children's Magazine Reading." *Journal of Educational Method,* 6:145-149 (December, 1926).

Johnson, B. Lamar. "Children's Reading Interests as Related to Sex and Grade in School." *School Review,* 40:257-272 (April, 1932).

Summarizes the results of a survey of the reading interests of 1,856 boys and girls in grades 5-9 in Duluth; compares findings with a previous survey of adult reading interests.

Jordan, A. M. *Children's Interests in Reading.* Chapel Hill, N. C.: University of North Carolina, 1926. $1.50.

Mellinger, Bonnie E. *Children's Interests in Pictures.* Teachers College, Columbia University, 1932. (Contributions to Education, No. 516.)
Reports the preferences of 795 children in grades 1, 3, and 5 for realistic and conventionalized representations of various subjects and in different color combinations.

National Education Association, Department of Elementary School Principals, Twelfth Yearbook, 1933. *Elementary School Libraries.* $2.00.

National Society for the Study of Education. *Twenty-fourth Yearbook,* Part I, "Reading." Public School Publishing Co., 1925.

Nelson, K. Irene Bowman. "Newspaper Reading of High School Pupils," *Library Journal,* 52:1028-29 (November, 1927).

Nesmith, Mary Ethel. *An Objective Determination of Stories and Poems for the Primary Grades.* Teachers College, Columbia University, 1927. (Contributions to Education, No. 255.)

Rinehart, Anne Campbell. *What Pittsburgh Junior High School Pupils Read.* Pittsburgh: Henry C. Frick Educational Commission, 1931. P. 84. (School Betterment Studies, Vol. III, No. 1.)
Summarizes reports from 5,510 pupils completing the ninth grade in eighteen high schools relative to the books which they enjoyed most and the types of literature which they preferred.

Shuttleworth, Frank K. *A Critical Study of Two Lists of Best Books for Children.* Clark University, 1932. Pp. 247-320. (Genetic Psychology Monographs, XI, No. 4.)
Compares the *Winnetka Graded Book List* and *A Guide to Literature for Character Training* with respect to grade placement and the relative worth and interest value of the books included.

Smith, Franklin Orion. "Pupils' Voluntary Reading." *Pedagogical Seminary,* 14:209 (June, 1907).

Stone, Clarence R. "Grading Reading Selections on the Basis of Interest." *Educational Method,* 10:225-230 (January, 1931).
Discusses critically the assumption that interest appeal is an adequate criterion for grade placement of selections, maintaining that other factors are also important.

Stroh, Mary Margaret. *Literature for Grades 7-9, a Study of Prevailing Materials and Methods with Suggestions for Their Revision.* Teachers College, Columbia University, 1926. (Contributions to Education, No. 232.)

Uhl, W. L. "The Interest of Junior High School Pupils in Informational Reading Selections." *Elementary School Journal,* 22:352-360 (January, 1922).

Uhl, W. L. *The Materials of Reading.* Silver, Burdett, 1924. $1.80.

Uhl, W. L. *Scientific Determination of the Content of the Elementary School Course in Reading.* Madison, Wis.: University of Wisconsin, 1921. Pp. 83-84. (Studies in the Social Sciences and History, No. 4.)

Vostrovsky, Clara. "A Study of Children's Reading Tastes." *Pedagogical Seminary,* 6:524 (December, 1899).

IV. BOOKS FOR CHILDREN'S USE IN FINE AND PRACTICAL ARTS[1]

COMMUNICATION, PRINTING, BOOKS, AND RELATED INDUSTRIES AND ARTS

American Council on Education. *The Story of Writing. The Story of Numbers. The Story of Weights and Measures.* Washington, D. C.
Excellent pamphlets giving the history of these subjects. Prepared for school use.

Bean. *Bookbinding for Beginners.* School Arts Publishing Co.

Brown. *The Story of Printed Pictures.* T. S. Rockwell Co.
A story book for children about the different processes of printing pictures.

Carter. *The Invention of Printing.* Columbia University Press.
Excellent discussion of papermaking and printing by the Chinese. For teachers. Contains a time line chart of records data.

Clodd. *The Story of the Alphabet.* D. Appleton Co.
Excellent account for children of the evolution of the alphabet with illustrations.

Cockerell. *Bookbinding and the Care of Books.* D. Appleton Co.
Technical handbook about bookbinding.

Dobson. *Block Cutting and Print Making.* G. P. Putnam's Sons.
Handbook on the art of print making.

Gordon. *Prove It Yourself.* F. A. Owen Co.
Simple experiments relative to magnetism and sound are suggested.

Government Chart. *Communication Charts.* North and South America. British Isles. Government Printing Office.

Hunter. *Paper Making in Classrooms.* Manual Arts Press.
Short accounts and excellent photographs about the art of paper making. Historical and modern methods. Good reference.

Hunter. *Paper Making.* W. E. Rudge.
A history of paper making by Dard Hunter, a contemporary paper and book craftsman. Detailed. Teacher's reference.

Ilin. *Black on White.* J. B. Lippincott Co.
The history of records. Interestingly told for children.

Mason. *History of the Art of Writing.* Macmillan.
Excellent description of writing forms of ancient peoples.

Maxwell. *The Story of Books.* Harper & Brothers.
A story book for children about the development of the book.

Meister. *Magnetism and Electricity.* Scribner's Sons.
Chapters on magnets, the telephone, and the radio, in simple language, suggest experiments for children to carry out.

Stein. *Gabriel and the Hour Book.* L. C. Page & Co.
A fascinating story for children about early printing.

[1] Selected by Ida Seidel from a bibliography prepared by Vesta Shimel, Associate Supervisor of Practical Arts, Grand Rapids, Michigan.

Sullivan. *How Things Behave.* A. C. Black, Ltd.
A chapter "What Is Sound?" tells about a boy's inquiry and answers the question. For children.
Tannahill. *P's and Q's, Letter Arrangement.* Doubleday.
Textbook for the art of lettering. Many styles of fine letters.
Woodbury. *Communication.* Dodd, Mead Co.
Traces communication methods from earliest times through modern television.

FOOD, CLOTHING, SHELTER, AND RELATED INDUSTRIES AND ARTS

Ainsworth-Davis. *Cooking Through the Centuries.* E. P. Dutton & Co.
Detailed account of foods and cookery from the Stone Age to present time. Modern scientific work on food and its production is considered in one chapter.
Atwater. *The Shuttle-Craft Book of American Hand Weaving.* Macmillan.
Badt. *Everyday Manners for Boys and Girls.* Laidlaw Bros.
Handbook on good manners, written for children.
Bailey. *Food Products from Afar.* Century Co.
Considers nuts, oils, fruits, spices, coffee, and other products from trees, and how they are made ready for consumers.
Baker. *Batiks and Other Pattern Dyeing.* Atkinson, Mentzer.
Contains excellent history of batik dyeing.
Barnard. *The Art of the Potter.* A. C. Black, Ltd.
Children's reading. Contains an excellent account of the growth of the pottery and china industry of England. Many illustrations. Processes of making commercial ware are explained clearly.
Barnes and Young. *Children and Architecture.* Bureau of Publications, Teachers College, Columbia University.
Architecture studied by sixth grade of Lincoln School, New York. City is described. Educational principles involved are discussed. Excellent reference.
Bell. *Jane-Louise's Cook Book.* Coward-McCann.
Cook book written for children to use. Very little reading.
Benton. *The Fun of Cooking.* Century Co.
A story book about cooking and food, written for children.
Berry. *Stuff.* D. Appleton Co.
Kettles of copper, skillets of iron, colonial pewter, tin cans, aluminum and silverware are delightfully discussed in stories.
Binns. *Pottery.* Van Nostrand Co.
Detailed accounts of how to make poured ware.
Bowles. *Homespun Handicrafts.* J. B. Lippincott.
Old time handicrafts which include spinning, weaving, knitting, embroidery, making lace, samplers, quilts, and rugs described in an interesting manner.
Brown. *The Young Architects.* Harper & Bros.
Architectural characteristics of periods in American history.
Brownlee and Fuller. *Chemistry of Common Things.* Allyn & Bacon.
Technical. Explains typical properties of metals, p. 192, corrosion of metals, p. 452, cleaning of metals, p. 461. Excellent account of glass making, pages 416 to 532.
Bunzel. *The Pueblo Potter.* Columbia University Press.
Detailed account with illustrations of pottery made by Pueblos.
Buschor. *Greek Vase Painting.* E. P. Dutton & Co.
Detailed accounts about the red and black figured vases painted by the early Greek artists. Many fine illustrations of Greek pottery.

Cain and Gowrie. *Tool Manual.* Industrial Arts Cooperative Service.
Handbook for using the common tools. Excellent for primary and elementary school purposes. Brief.

Colby and Foster. *Economic Geography.* Ginn and Co.
The silk industry of Japan and China is considered in detail. Excellent charts and maps of production areas of all textile fibers.

Cooke. *A Visit to a Cotton Mill.* Oxford University Press.
A story for children.

Cooke. *A Day with Leather Workers.* Oxford University Press.
A story for children.

Cooke. *A Visit to a Woolen Mill.* Oxford University Press.
A story for children about wool, spinning, weaving, and cloth-finishing.

Couch. *Basket Pioneering.* Orange Judd Publishing Co.
Handbook for making baskets. Emphasizes the use of native materials.

Cox. *Pottery.* Macmillan.
Detailed accounts of how to make poured ware.

Davis. *Cooking Through the Centuries.* J. M. Dent & Sons.
An excellent reference to discover utensils used in food preparation throughout history. Many illustrations and detailed accounts.

Davis. *Life in Elizabethan Days.* Harper & Bros.
Pages 68-90 consider the foods and feasting of Queen Elizabeth's time. Detailed, with illustrations.

Davis. *Life on a Mediaeval Barony.* Harper & Bros.
Pages 113-132 describe in detail cooking and meal times of people in medieval days.

Disraeli. *Seeing the Unseen.* John Day Co.
Photographic pictures of things seen through the microscope.

Dooley. *Textiles.* D. C. Heath & Co.
Detailed account of textile fibres and their manufacture.

Dorrance. *Story of the Forest.* American Book Co.
Trees, lumbering, forest products described for children.

Fabre. *The Secret of Everyday Things.* Century Co.
Contains stories about matches, wood and charcoal, coffee, nuts, and other things that come from trees.

Forman. *Stories of Useful Inventions.* Century Co.
Contains stories of the invention of the plow, reaper, and mill.

Frederickson. *The Story of Milk.* Macmillan.
Contains a detailed account of dairy farming and products.

Fry. *Man and His Customs.* Thos. Y. Crowell Co.
Interesting chapters on world customs of fashions and etiquette. Written for children.

Gibson. *The Goldsmith of Florence.* Macmillan.
Pages 150 to 169 describe the fine work of craftsmen in the early American colonies making articles of silver, pewter, and copper. Excellent account of the process.

Goodrich. *Mountain Homespun.* Yale University Press.
Crafts of mountain people, delightfully told. Excellent material on nature dyes.

Government Report. *Commerce Yearbook of Foreign Countries.* Dept. of Commerce.
Gives comparative statistics about the production, trade, and consumption of cotton, wool, silk, and rubber the world over.

Griffith. *Woodwork for Beginners.* Manual Arts Press.
Handbook on how to use common tools. Concise.

Harrison. *Pots and Pans.* Morrow.
The significance of pottery to history, to give clues regarding people who made it, is emphasized. Methods and products of potters of all times and many places are considered.

Hibben. *The Carpenter's Tool Chest.* J. B. Lippincott.
Children's story about tools that people in history have used to shape materials. Excellent illustrations.

Hibben. *The National Cookbook.* Harper & Bros.
Collection of recipes organized about the native dishes of people who settled America.

Holleday. *Colonial Woman and the Home.* Cornhill Publishing Co.

Horth. *Beaten Metal Work.* G. P. Putnam's Sons.
Handbook for shaping articles of metal by means of pounding. Non-technical.

Horth. *Constructive and Decorative Woodwork.* G. P. Putnam's Sons.
Handbook for using tools and making wooden articles.

Hough. *The Story of Fire.* Doubleday.
Contains stories for children to read about how people in history have cooked, what they used to cook with, and how they made the utensils. Excellent photograph of colonial fireplace with its many utensils.

Ilin. *100,000 Whys.* J. B. Lippincott.
Delightful stories for children to read which answer their questions about why things are made of different materials; about iron and tin utensils, dishes, crocks, china and glass.

Kent. *The Hooked Rug.* Dodd, Mead Co.
Origin and development of the hooked rug. Historical methods of making. Illustrated with old designs.

Lamprey. *In the Days of the Guild.* F. A. Stokes Co.
Contains stories of the 15th Century about the wool merchants and tapestry weavers. Written for children.

Lamprey. *Masters of the Guild.* F. A. Stokes Co.
Contains a story, "The Tapestry Chamber," which describes the art of tapestry making by the ladies of a castle. Children's reading.

Lamprey. *Wonder Tales of Architecture.* F. A. Stokes Co.
Characteristic features of types of architecture of early times are described.

Lemos. *Color Cement.* Davis Press.
Explains the way of using color cement in crafts.

Lobingier. *Hebrew Home Life.* University of Chicago.
Contains stories for children about farms, crops, foods, harvests, flour-making, and breadmaking among the early Hebrew people.

McGowan. *Soap Bubbles.* Macmillan.
Story of soap and scourers. History, manufacture, and action of soap on cloth.

Mason. *Woman's Share in Primitive Culture.* D. Appleton Co.
Woman as the weaver, the dresser of skins, the food bringer.

Mead. *The English Mediæval Feast.* Houghton Mifflin.
Points out distinctive features of mediæval cookery, which have long since disappeared. Very interesting detail.

Meister. *Heat and Health.* Scribner's Sons.
How bacteria grow, metals that melt, heat conduction of materials, and glass making are helpful discussions, with experiments to carry out. Children's reading.

Mijer. *Batiks.* Dodd, Mead Co.
Describes materials and processes for batik work.

Mitchell. *Skyscraper.* John Day Co.
Photographs, verses, brief stories for children; describes how skyscrapers are built.

Neuberger. *Technical Arts and Sciences of the Ancients.* Macmillan.
The early bakery, hulling corn, baking bread, brewing beer, preparing wine are some of the early foods preparations considered.

Pack and Gill. *Forest Facts for Schools.* Macmillan.
What trees do for man is discussed for children.

Pakington. *How the World Builds.* A. C. Black, Ltd.
The evolution of architecture.

Peake and Fleure. *Peasants and Potters.* Yale University Press.
Excellent accounts from Petrie about the very earliest pottery—Egyptian, beginning about 4000 B.C. Shapes, decoration, uses, and historical significance are considered in detail.

Pellew. *Dyes and Dyeing.* McBride & Co.
Detailed description for the dyeing of all materials.

Perry. *Art Adventures with Discarded Materials.* Wetzel Co.
Describes how to make things from cloth scraps, flour and gunny sacks, old sheets, and stockings.

Petersham. *The Story Book of Clothes.* Winston.
Written and illustrated for young children. Considers the clothing of people of other lands.

Phelan. *Candlelight Tales.* T. Nelson & Sons.
Contains stories about feather beds and making a homespun suit. Children's reading.

Prescott. *A Day in a Colonial Home.* Marshall Jones Co.
Contains excellent illustrations with brief discussions of tools used for colonial spinning and weaving. Children's reference.

Quennell. *The New Stone and Bronze Age.* G. P. Putnam's Sons.
Many pages describe foods of the earliest people and the first cooking methods.

Rawson. *Candle Days.* Century Co.
Interesting chapters about colonial dyes, spinning and quilling wheels, and looms; farming; dairying; cooking.

Rose. *Feeding the Family.* Macmillan.
Technical reference for planning foods relative to correct standards. Excellent material.

Searle. *Clay and What We Get From It.* Sheldon Press.
Tells how our tableware is made and decorated.

Shook. *The Book of Weaving.* John Day Co.

Smith. *Made in America.* A. A. Knopf.
Discusses the handcraft period of American history—glass, silver, furniture, and printing. For children.

———. *Made in France.* A. A. Knopf.
Describes decorative arts of France—pottery, china, wallpaper, printed cotton tapestries. For children.

———. *Made in Mexico.* A. A. Knopf.
Handcraft in Mexico today. For children.

———. *Pewter Work.* G. P. Putnam's Sons.
A handbook for beginners.

Sperry. *One Day with Manu.* Winston.
Story for children about a boy living in the South Seas. Detailed account of foods and feasting. Colored illustrations.

Studio Publication. *Children's Toys of Yesterday.* Studio Publications.
Photographs of many dolls in interesting costumes.

Webb. *Pottery Making.* Portland Cement Assn.
Brief account of how to make molds for poured ware. Explains the making of handles, covers, spouts, and the like.

Wheeler. *Playing with Clay.* Macmillan.
Children's reader and handbook for work with clay.
White. *Made in Russia.* A. A. Knopf.
Stories for children to read; includes stories about silversmiths and carved wooden utensils.
Wren. *Handcraft Pottery.* G. P. Putnam's Sons.
Explains processes of shaping clay by coil, wheel, and casting, glazing and firing. Not technical.

INDIAN LIFE, ARTS, AND CRAFTS

Armer. *Waterless Mountain.* Longmans, Green.
A beautiful story to read to children about a Navajo Indian boy; gives a picture of the life of the tribe.
Bunzel. *The Pueblo Potter.* Columbia University Press.
Information about Zuni, Acona, Hopi, and San Ildefonso pottery and their designs. Detailed. Numerous illustrations.
Dearborn. *How the Indians Lived.* Ginn and Co.
Children's reader about plains Indians. Simple direct stories that answer children's questions.
Densmore. *Uses of Plants by the Chippewa Indians.* Government Printing Office.
The varied uses of plants by the Chippewas—foods, medicine, dyes, charms, and decoration are described in detail.
Gifford. *Pottery Making in the Southwest.* University of Colorado Press.
Booklet discusses the methods of shaping pottery in the Pueblo region.
Goddard. *Indians of the Northwest Coast.* American Museum of Natural History.
Handbook portraying the life of the people. Excellent account of their arts and culture.
Goddard. *Indians of the Southwest.* American Museum of Natural History.
Handbook portraying the life of the people. Excellent account of their arts and culture.
James. *Indian Blankets.* A. C. McClurg Co.
Detailed information about Indian blankets and their makers. Numerous colored plates.
Parker. *Indian How Book.* G. P. Putnam's Sons.
Explains how Indians carried on their activities. Told so that children can carry on similar experiences. Teacher's reference.
Perkins. *Handbook on the American Indian and His Art.* Woman's Press.
Brief account of the art of the Indians. Excellent bibliography about Indians.
Salomon. *The Book of Indian Crafts and Indian Lore.* Harper & Bros.
Stories told for boys and girls so that they may learn how to do things which the Indian did. Excellent handbook for culture and crafts.

TRANSPORTATION AND TRADE

Albrecht. *About Foods and Markets.* Teachers College, Columbia University.
Railroad transportation of foods is described on pages 74-80; facilities that fix the freight charges, refrigerator cars, and increased use of motor trucks are considered.

Bock. *What Makes the Wheels Go Around.* Macmillan.
Principles of machines, elements of machines, sources of power are explained with pictures and simple text.

Braine. *Merchant Ships and What They Bring Us.* E. P. Dutton & Co.
A picture book with text for young children.

Carter. *The Story of Money.* Farrar and Rinehart, Inc.
Early barter, the first money, gold, paper, banks, and money circulation of today interestingly told for children.

Cottler and Jaffe. *Heroes of Civilization.* Little, Brown & Co.
Stories about explorers—from Marco Polo to Amundsen; Robert Fulton; the Wright Brothers. For children.

Curtis. *Boats.* Rand McNally.
Adventures in boat-making by third grade children.

Dukelow and Webster. *The Ship Book.* Houghton Mifflin.
An elementary reader about ships. An excellent reference.

Eaton. *The Story of Transportation.* Harper & Bros.
Story book for children.

Evans. *The Story of the Harbor.* Harper & Bros.
History of the harbor and story of New York Harbor.

Gimmage. *The Picture Book of Ships.* Macmillan.
Pictures and descriptive text of sailboats, steamers, and motor boats. For children.

Government Bulletin. *Air Commerce Bulletin.* Government Printing Office.
Describes how America protects the flying public (1929).

Government Bulletin. *U. S. Lighthouses Service.* Department of Commerce.
Interesting short history of the lighthouse work and present service to navigation. Many charts and pictures.

Hader. *The Picture Book of Travel.* Macmillan.
Illustrations of travel around the world, with simple text.

Harney. *The Skycraft Book.* D. C. Heath & Co.
Interesting accounts of aviation development through 1931.

Huberman. *We the People.* Harper & Bros.
Our paper money credit system and financial institutions are discussed in simple language for children. The book also pictures the westward movement in the United States and gives a colorful background to a transportation study.

Lent. *Clear Track Ahead.* Macmillan.
Stories written for the small child about a train, the depot, and freight yard.

Logie. *From Columbus to Lincoln.* Lyons and Carnahan.
Vivid letters or other accounts written in a quaint style, picture events of early times. They include details about explorers, their voyages or trips, and related incidents. For children.

Meister. *Energy and Power.* Scribner's Sons.
Chapters on the steam engine, gasoline engine, and the automobile are written to interest children in the science aspects of these machines. Experiments are suggested to check others' conclusions and to discover things for self.

———. *Water and Air.* Scribner's Sons.
Chapter on the airplane and water buoyance explain the science aspects to children; suggests experiments to stimulate discovery.

Mitchell. *North America.* Macmillan.
Ocean steamers, river boats, railroads, and city traffic are pictured in detail in thrilling stories about each. For children.

Muller. *How They Carried the Goods.* Dodd, Mead Co.
How things have been carried from Pharaoh's time to the present told in thrilling stories. Excellent reference.

National Geographic Society. "The Geography of Money." *National Geographic,* Dec. 1927.
Interesting article with illustrations showing the many things that are used for money in parts of the world.

Petersham. *Story Book of Transportation.* Winston.
A child's story picture book about how people used to carry things about, and today's way of travel.

Read and Lee. *An Airplane Ride.* Scribner's Sons.
Story for primary children.

Read and Lee. *An Engine's Story.*—Scribner's Sons.
Story for primary children.

Read and Lee. *A Story About Boats.* Scribner's Sons.
Story for primary children.

Syne. *A Book of Discovery.* G. P. Putnam's Sons.
Fascinating history of the world's exploration from earliest times to 1911. Curious maps and charts.

Van Metre. *Trains, Tracks and Travel.* Simmons-Boardman Publishing Co.
A story of American railroads told in an understanding way.

Yates. *Boy's Book of Modern Boats.* Century Co.
Younger children's reference on boat building.

MISCELLANEOUS

Mining and Metals

Horth. *Beaten Metal Work.* G. P. Putnam's Sons.
Handbook for shaping metal.

Marshall. *The Story of Human Progress.* Macmillan.
Chapter III tells how man conquered fire and learned to shape metals to meet his needs. For children.

Mollett. *Leaded Glass Work.* G. P. Putnam's Sons.
Describes the process of shaping materials so as to make leaded glass panels.

Smith. *Pewter Work.* G. P. Putnam's Sons.
A handbook to help beginners to work with pewter.

Smith. *Small Jewelry Work.* G. P. Putnam's Sons.
A handbook to help craftsmen make inexpensive jewelry articles.

Sullivan. *How Things Behave.* A. C. Black, Ltd.
Interestingly written for children.

Music and Musical Instruments

Bauer and Peyser. *How Music Grew.* G. P. Putnam's Sons.
A detailed account about how music developed from its primitive state to present time.

Coleman. *Creative Music for Children.* G. P. Putnam's Sons.
Excellent directions for making all kinds of musical instruments.

———. *Creative Music in the Home.* Myers and Co.
Helpful in the making of simple musical instruments.

———. *The Drum Book.* John Day Co.
Accounts with illustrations of drums used long ago and today in far-away places. Helpful directions in making drums and music.

Puppets and Puppetry

Bufano. *Be a Puppet Showman.* D. Appleton Co.
Written for people who are beginning to develop an interest in puppetry. Shows how to make the puppets, improvise the theatre, and arrange the play.

McIsaac. *The Tony Sarg Marionettes.* Huebsch.
Description for making simple puppets and developing plays.

Mills and Dunn. *Marionettes, Masks, Shadows.* Doubleday.
Describes how to make and develop marionette plays. Detailed.

Time-Keeping Devices

American Council on Education. *The Story of Our Calendar* (pamphlet).

———. *Telling Time Throughout the Centuries.*

Bailey. *Romance and History of Time.* Elgin Watch Co. Vols. I and II.
Pamphlets which tell about the evolution of time-keeping. Simple language with illustrations.

Gordon. *Prove It Yourself.* F. A. Owen Co.
Astronomy and its relation to time is clearly discussed (see pages 215-229). Illustrations of different time-keeping devices.

Ilin. *What Time Is It?* Lippincott.
The history of clocks interestingly told, for children to read.

Toys and Toymakers

Tippett. *Toys and Toymakers.* Harper & Bros.
Tells about the makers of our common toys. For children.

DIRECTORY OF PUBLISHERS

Allyn and Bacon, 50 Beacon St., Boston, Mass.; 11 East 36th St., New York City. Chicago, Atlanta, Dallas, San Francisco.
American Book Company, 88 Lexington Ave., New York City. Atlanta, Boston, Chicago, Cincinnati.
American Council on Education, 744 Jackson Place, Washington, D. C.
American Library Association, 520 N. Michigan Ave., Chicago, Ill.
American Museum of Natural History, Columbus Ave. and 77th St., New York City.
Appleton. D. Appleton-Century Company, 35 West 32nd St., New York City.
Associated Publishers, Washington, D. C.
Association Press, 347 Madison Ave., New York City.
Black, A. C., Ltd., 4-6 Soho Square, London. U. S. Agent, Macmillan Company.
Bobbs-Merrill Company, 185 Madison Ave., New York City.
Bruce Publishing Company, Milwaukee, Wis.
Century Company. (See Appleton.)
Columbia University Press, 2960 Broadway, New York City.
Compton, F. E. & Company, 19 West 44th St., New York City.
Cornhill Publishing Company, Boston, Mass.
Coward-McCann, Inc., 55 Fifth Ave., New York City.
Crowell, Thomas Y., Company, 393 Fourth Ave., New York City.
Davis Press, Inc., 44 Portland St., Worcester, Mass.
Day. John Day Company, 386 Fourth Ave., New York City.
Dent, J. M. & Sons, Ltd., Aldine House, Toronto, Canada.
Dodd, Mead & Company, 449 Fourth Ave., New York City.
Doubleday, Doran & Company, 244 Madison Ave., New York City.
Dutton, E. P. & Co., Inc., 300 Fourth Ave., New York City.
Educational Publishing Corporation, 425 Fourth Ave., New York City.
Educational Screen, Inc., 64 Lake St., Chicago, Ill.
Farrar & Rinehart, Inc., 232 Madison Ave., New York City.
Forest Press, Lake Placid, N. Y.
Franklin Publishing & Supply Company, Philadelphia, Pa.
Ginn and Company, 15 Ashburton Place, Boston, Mass. 70 Fifth Ave., New York City. Chicago, Columbus, Atlanta, Dallas, San Francisco.
Government Printing Office, Washington, D. C.
Harcourt, Brace and Company, 383 Madison Ave., New York City.
Harper & Brothers, 49 East 33rd St., New York City.
Heath, D. C. & Company, 180 Varick St., New York City. Boston, Chicago, Atlanta, Dallas, San Francisco.

Holt, Henry & Company, 1 Park Ave., New York City. Chicago, San Francisco.
Houghton Mifflin Company, 386 Fourth Ave., New York City. Boston, Chicago, Dallas, Atlanta, San Francisco.
Huebsch, B. W., Inc., 18 East 48th St., New York City.
Industrial Arts Coöperative Service, 519 West 121st St., New York City.
Johnson Publishing Company, Richmond, Va. 55 Fifth Ave., New York City. Chicago, Atlanta, Dallas.
Jones. Marshall Jones Company, 212 Summer St., Boston, Mass.
Judd. Orange Judd Publishing Company, 15 East 26th St., New York City.
Knopf, Alfred A., 730 Fifth Ave., New York City.
Laidlaw Brothers, Inc., 36 West 24th St., New York City.
Lippincott. J. B. Lippincott Company, 227 E. Washington St., Philadelphia, Pa.
Little, Brown & Company, 34 Beacon St., Boston, Mass. 60 East 42nd St., New York City.
Longmans, Green & Company, 114 Fifth Ave., New York City.
Lyons and Carnahan, 76 Ninth Ave., New York City.
Macmillan Company, 60 Fifth Ave., New York City.
McBride, Robert M. & Company, 4 West 16th St., New York City.
McClurg, A. C. & Company, 329 East Ontario St., Chicago, Ill.
McKinley Publishing Company, Philadelphia, Pa.
Manual Arts Press, 237 N. Monroe St., Peoria, Ill.
Merrill, Charles E., Company, 381 Fourth Ave., New York City.
Morrow, William & Company, 386 Fourth Ave., New York City.
Myers, Lewis E. & Company, Valparaiso, Ind.
National Council of Teachers of English, 211 West 68th St., Chicago, Ill.
National Education Association, 1201 16th St., NW, Washington, D. C.
National Geographic Society, Hubbard Memorial Hall, Washington, D. C.
Nelson, Thomas & Sons, 381 Fourth Ave., New York City.
Owen. F. A. Owen Publishing Company, Dansville, N. Y.
Oxford University Press, 114 Fifth Ave., New York City.
Page, L. C. & Company, Inc., 53 Beacon St., Boston, Mass.
Portland Cement Association, 33 West Grand Ave., Chicago, Ill. 347 Madison Ave., New York City.
Public School Publishing Company, Bloomington, Ill.
Putnam. G. P. Putnam's Sons, 2 West 45th St., New York City.
Quarrie, W. F. & Company, 30 Rockefeller Plaza, New York City. Chicago.
Rand McNally & Company, 111 Eighth Ave., New York City. 536 South Clark St., Chicago, Ill. Washington, San Francisco, Los Angeles.
Rockwell, Thomas S., Company, 343 West Dearborn St., Chicago, Ill.
Row, Peterson & Company, 131 East 23rd St., New York City.
Rudge, William E., 30 Rockefeller Plaza, New York City.
School Arts Publishing Company, Worcester, Mass.
Scott, Foresman & Company, 114 East 23rd St., New York City. Chicago, Atlanta, Dallas.

Scribner. Charles Scribner's Sons, 597 Fifth Ave., New York City.
Sheldon Press, 9 Northumberland Ave., London. U. S. Agent, Macmillan Company.
Silver, Burdett & Company, 41 Union Square West, New York City. 39 Division St., Newark, N. J. Boston, Chicago, San Francisco.
Simmons-Boardman Publishing Company, 30 Church St., New York City. 105 West Adams St., Chicago, Ill. 50 Public Square, Cleveland, Ohio. Transportation Bldg., 17th & H Sts., Washington, D. C. 58 Main St., San Francisco, Cal.
Stokes, Frederick A., Company, 443 Fourth Ave., New York City.
Studio Publications, Inc., 44 Leicester Square, London. 381 Fourth Ave., New York City.
South Western Publishing Company, Cincinnati, Ohio.
Teachers College Bureau of Publications, 525 West 120th St., New York City.
University of Chicago Press, 5750 Ellis Ave., Chicago, Ill.
University of Colorado Press, Boulder, Colo.
University of North Carolina Press, Chapel Hill, N. C.
University of State of New York, Albany, N. Y.
University Publishing Company, 239 Fourth Ave., New York City.
Van Nostrand. D. Van Nostrand Company, Inc., 250 Fourth Ave., New York City.
Viking Press, Inc., 18 East 48th St., New York City.
Warwick & York, 103 Center St., Baltimore, Md.
Wetzel Publishing Company, Los Angeles, Cal.
Wheeler Publishing Company, 2831 South Parkway, Chicago, Ill.
Wilson, H. W., Company, 950 University Ave., New York City.
Winston, John C., Company, 1006 Arch St., Philadelphia, Pa.
Woman's Press, 600 Lexington Ave., New York City.
World Book Company, Park Hill, Yonkers, N. Y.
Yale University Press, New Haven, Conn.

STATE LIBRARY EXTENSION AGENCIES[1]

Arkansas Free Library Service Bureau, Department of Education. (No appropriation or executive.)

California State Library. State Librarian, Mabel R. Gillis; County Library Organizer, Mrs. May Dexter Henshall, Sacramento.

Colorado State Library. Ex-officio State Librarian, Mrs. Inez Johnson Lewis, State Superintendent of Public Instruction, Denver.

Connecticut Public Library Committee, State Board of Education. Executive Secretary, Katherine H. Wead, State Office Bldg., Hartford.

Delaware State Library Commission. Librarian, Mrs. Bernice W. Hammond, Dover.

Florida State Library. Secretary and State Librarian, W. R. Cash, Tallahassee.

Georgia Library Commission. Secretary, Beverly Wheatcroft, Atlanta.

Idaho Free Traveling Library Commission. Librarian, L. Bedford, Boise.

Illinois Library Extension Division, State Library. Superintendent, Anna May Price, Centennial Memorial Bldg., Springfield.

Indiana Library and Historical Department. Director, Louis J. Bailey; Chief, Extension Division, Hazel B. Warren, Indianapolis.

Iowa Library Commission. Executive Secretary, Julia A. Robinson, Historical Bldg., Des Moines.

Kansas State Library. Librarian, Louise McNeal; Secretary, Traveling Libraries Commission, Henrietta Alexander, Topeka.

Kentucky Library Commission. Secretary, Lena B. Nofcier, Frankfort.

Louisiana Library Commission. Executive Secretary, Essae Martha Culver, Baton Rouge.

Maine State Library, Department of Education. State Librarian, Henry E. Dunnack; Director, Bureau of Library Extension, F. Elizabeth Libbey, Augusta.

Maryland Public Library Advisory Commission. Director, Adelene Jessup Pratt, 517 N. Charles St., Baltimore.

Massachusetts Division of Public Libraries, Department of Education. Secretary, E. Kathleen Jones, 212 B, State House, Boston.

Michigan State Library. State Librarian, Mrs. Lissian Navarre. Director, Extension Division, Constance Bement, Lansing.

Minnesota Library Division, Department of Education. Director of Libraries, Clara F. Baldwin, State Office Bldg., St. Paul.

Mississippi Library Commission. (No appropriation.) Secretary, Elizabeth Robinson, 200 New Capitol, Jackson.

[1] From "Stray Library Leaves." Teachers College Library, Columbia University, May 26, 1934. In addition to the agencies listed, a Library Extension Division usually is connected with each state university.

Missouri Library Commission. Secretary, Ruth O'Malley, Jefferson City.
Montana State Library Extension Commission. (No appropriation.) Chairman, Philip Keeney, State University of Montana Library, Missoula.
Nebraska Public Library. Public Library Commissioner, Gilbert H. Doane, University of Nebraska Library, Lincoln; Executive Assistant, Nellie M. Carey, Station A, Lincoln.
New Hampshire Public Library Commission. Secretary, Dorothy Annable, 20 Park St., Concord.
New Jersey Public Library Commission. Secretary, Sarah B. Askew, State House Annex, Trenton.
New Mexico State Library Extension Service. Director, Esther Wilkie, Museum of New Mexico, Santa Fe.
New York Library Extension Division. Director, Frank Leland Tolman, State Education Bldg., Albany.
North Carolina Library Commission. Secretary and Director, H. Marjorie Beal, Agricultural Bldg., Raleigh.
North Dakota State Library Commission. Secretary and Director, Lillian E. Cook, Liberty Memorial Bldg., Bismarck.
Ohio State Library. State Librarian, Paul A. T. Noon, State Office Bldg., Columbus.
Oklahoma Library Commission. Secretary, Mrs. J. R. Dale, Oklahoma City.
Oregon State Library. State Librarian, Harriet C. Long, Salem.
Pennsylvania State Library. Director, Gertrude MacKinney; Extension Librarian, Library Extension Division, Susanna Young, Education Bldg., Harrisburg.
Rhode Island State Board of Education. Library Visitor, Mrs. Anne W. Congdon, State House, Providence.
South Carolina State Library Board. (No appropriation.) Secretary, Mrs. Lucy Hampton Bostick, Public Library, Columbia.
South Dakota Free Library Commission. Director, Leora J. Lewis, State House Annex, Pierre.
Tennessee Department of Education. Director of School Libraries, Martha M. Parks, Nashville. (Carries on general library activities.)
Texas Library and Historical Commission, State Library. Librarian, Fannie M. Wilcox; Field Worker, Miss Edwin Sue Goree, Austin.
Utah Library Division, Department of Public Instruction. State Secretary of Libraries, Mosiah Hall, Salt Lake City.
Vermont Free Public Library Department, State Board of Education. Secretary, Elizabeth T. Williams, State Bldg., Montpelier.
Virginia State Library. State Librarian, Wilmer L. Hall, Richmond; Head of Extension Division, Miss Leslie W. Stevens.
Washington State Library. State Librarian, Mildred H. Pope, Temple of Justice, Olympia.
West Virginia Library Commission. (No appropriation.) Secretary, Mrs. Harvey W. Harmer, Clarksburg.
Wisconsin Free Library Commission. Secretary, Clarence B. Lester, Madison.

STATE VISUAL EDUCATION CENTERS

This list[1] includes those agencies in 24 states which circulate visual aids to schools. Write for the catalog of your own state agency.

Arizona, University of. Extension Division, Department of Public Service. Tucson.

California, University of. Extension Division, Department of Visual Instruction. Berkeley.

Colorado, University of. Extension Division, Bureau of Visual Instruction. Boulder.[2]

Florida, University of. Extension Division. Gainesville.

Illinois, University of. Visual Aids Service. Urbana.

Indiana University. Extension Division, Bureau of Visual Instruction. Bloomington.

Iowa, University of. Extension Service, Department of Visual Instruction. Iowa City.

Iowa State College of Agriculture and Mechanical Arts. Visual Instruction Service. Ames.

Kansas, University of. Department of University Extension. Lawrence.[2]

Kentucky, University of. Department of University Extension. Lexington.

Massachusetts Department of Education. Division of University Extension. Boston.

Minnesota, University of. General Extension Division, Bureau of Visual Instruction. Minneapolis.

Missouri, University of. Visual Education Service, Extension Division. Columbia.

New Jersey State Museum, Department of Conservation and Development. Trenton.

New York, University of the State of. Education Department, Visual Instruction Division. Albany.

North Dakota Agricultural College, Visual Instruction Service, State College Station, Fargo.

Ohio State Department of Education. Visual Instruction Exchange, Columbus.

Oklahoma, University of. Extension Division, Bureau of Visual Instruction, Department of Town and Country Service, Norman.

Oregon State System of Higher Education. General Extension Division, Department of Visual Instruction, Corvallis. (Location of the State Agricultural College. The State University is at Eugene.)

[1] Compiled by Etta Schneider.

[2] This agency serves surrounding states also.

Pennsylvania, Commonwealth of. Department of Public Instruction, Visual Education Division, Harrisburg.

South Dakota, University of. General Extension Division, Department of Visual Instruction, Vermillion.

Texas, University of. Extension Division, Bureau of Visual Instruction, Austin.

Utah. Brigham Young University, Bureau of Visual Instruction, Extension Division, Provo.

Washington. Washington State College, Division of General College Extension, Department of Educational Films and Stereopticon Slides, Pullman.

Wisconsin, University of. Extension Division, Bureau of Visual Instruction, Madison.

ACKNOWLEDGMENT

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Laurie, Helen, Supervisor of Elementary Education, 844 Central Bldg., Seattle, Wash.
Lea, Margaret E., Primary Supervisor of Jefferson County Schools, Birmingham, Ala.
Leath, Mary, Primary Supervisor of City Schools, Memphis, Tenn.
Lebeis, Clara D., Supervisor of Primary Grades, Room 716, City Hall, St. Paul, Minn.
Mabie, Ethel, Supervisor, 22 W. Dayton St., Madison, Wis.
Mackintosh, Helen K., Supervisor of Later Elementary Grades, 322 Cherry St., S.E., Grand Rapids, Mich.
Marble, Sarah A., Supervisor of Kindergartens, Room 14, City Hall, Worcester, Mass.
Meacham, Lucy Helen, Supervisor of Elementary Schools, Wichita, Kan.
Minor, Lillian, Rural Supervisor, Norfolk County, 1112 Matooka St., Norfolk, Va.
Moberly, Mabel, Rural Supervisor, Springfield Teachers College, Springfield, Mo.
Neuner, Dr. Elsie Flint, Supervisor of Elementary Science, Public Schools, New Rochelle, N. Y.
Oehmig, Elizabeth, Primary Superintendent, City Schools, Nashville, Tenn.
Oliver, Paul H., Director of Music, Newark, N. J.
Osborne, Kathleen, District Superintendent of Warren County, North Creek, New York.
Palmer, Eva N., Grammar Grade Supervisor, Battle Creek, Mich.
Prehm, Hazel, Elementary Supervisor of East Waterloo Schools, 308 Lafayette St., Waterloo, Iowa.
Reynolds, Helen M., Director of Kindergarten-Primary Education, 846 Central Bldg., Seattle, Wash.
Rockwell, Ethel, Supervisor of Physical Education, 228 Douglas Ave., Kalamazoo, Mich.
Schurter, Elsie, Elementary Supervisor of Escambia County Schools, Brewton, Ala.
Sharrard, Kate, Supervisor of Elementary Instruction, c/o Board of Education, Grand Island, Neb.
Shaw, Lena, Supervisor of Handwriting, 11526 Linwood St., Detroit, Mich.
Simmons, Edna, Supervisor of Instruction, Hinds County, Jackson, Miss.
Steele, Roxana, Associate Director of Training Schools, Western State Teachers College, Kalamazoo, Mich.
Sullivan, Mary A., Kindergarten-Primary Supervisor, 193 West Ave., Bridgeport, Conn.
Tener, J. Harl, Assistant Superintendent, Kern County, Bakerfield, Cal.

Thomas, Helen S., Rural Supervisor, San Bernardino County, El Centro, Cal.
Turner, Winnie Virgil, Elementary Supervisor, Blytheville, Ark.
Underwood, F. M., Assistant Superintendent, 3942 Connecticut St., St. Louis, Mo.
Van Syckle, Edith L., Helping Teacher of Salem County, 258 Glen Park, Bridgeton, N. J.
Weeks, Florence, Supervisor of Physical Education, Public Schools, Oakland, Cal.
Whitman, Florence E., Assistant Director of Elementary Grades, 5216 Jackson St., Houston, Texas.
Yardley, Hattie, Director of Instruction, Box 519, Greeley, Colo.

DEPARTMENTAL RECORDS

THE DEPARTMENT OF SUPERVISORS AND DIRECTORS OF INSTRUCTION OF THE NATIONAL EDUCATION ASSOCIATION

Historical Note

This department of the National Education Association was created by vote of the Executive Committee at Minneapolis in July, 1928. It was the outgrowth of the activities of a group known as the National Conference on Educational Method, which was organized in Atlantic City March 1, 1921. This society later changed its name to National Conference of Supervisors and Directors of Instruction (Boston meeting, February 28, 1928).

The purpose of the department is the improvement of supervision and teaching. This object is sought, first, by means of conventions held annually in February and July and also regionally at other times; second, by means of publication. The department sponsors a journal called *Educational Method* and issues a yearbook of about 250 pages, distributed free to members. Each yearbook is prepared by a special committee appointed by the president of the Department with the concurrence of the executive committee. It is edited by the secretary-treasurer of the Department, who is also the editor of *Educational Method*. Eight yearbooks, including the present volume, have so far been published (see list, p. 224). A series of five yearbooks dealing with leadership and guidance of the program of activities of the common school is projected. The first, dealing with English, will appear in 1936. This will be followed by a yearbook on science, including hygiene and mathematics, and this by yearbooks on fine and industrial arts, rhythmic arts, and the social sciences.

This department has at present about a thousand members. A promotion committee[1] is maintained, with representatives in every

[1] For personnel of this committee, see *Educational Method* for May, 1935, p. 450.

state. The steering committee of this group consists of Miss Maybell G. Bush, State Supervisor of Elementary Schools, Madison, Wisconsin; Miss Helen J. Piper, Supervisor of Grades 4, 5, and 6, Lynn, Massachusetts; and Mr. Franklin M. Underwood, Assistant Superintendent of Schools, St. Louis, Missouri.[1]

The department has made provision for state and district branches with permanent representation on its board of directors. At present there are branches in Illinois, Kentucky, Massachusetts, Michigan, and Oklahoma. The board of directors is made up of fifteen directors at large, elected for three-year terms at the annual meeting of the department, and directors chosen by the branches.

Persons interested in the work of the department may apply for membership to the secretary-treasurer at 525 West 120th Street, New York City. The annual dues of $4.00 cover the subscription to *Educational Method* as well as the current yearbook. Subscription to the journal alone is $3.00. The price of a yearbook alone is $2.00 postpaid. Special rates will be made for quantities.

YEARBOOKS

*First Yearbook, 1928, *Educational Supervision* (Leo J. Brueckner, Chairman)

*Second Yearbook, 1929, *Scientific Method in Supervision* (Leo J. Brueckner, Chairman)

*Third Yearbook, 1930, *Current Problems of Supervisors* (J. Cayce Morrison, Chairman)

Fourth Yearbook, 1931, *Evaluation of Supervision* (Clifford Woody, Chairman)

Fifth Yearbook, 1932, *Supervision and the Creative Teacher* (Elma A. Neal, Chairman)

Sixth Yearbook, 1933, *Effective Instructional Leadership* (Rudolph D. Lindquist, Chairman)

Seventh Yearbook, 1934, *Scientific Method in Supervisory Programs* (Paul T. Rankin, Chairman)

Eighth Yearbook, 1935, *Materials of Instruction* (Fannie W. Dunn, Chairman)

* Starred titles are out of print.

ANNUAL MEETINGS

National Conference on Educational Method

1921—Atlantic City, N. J. (Organization)
William H. Kilpatrick, Chairman
James F. Hosic, Secretary

1922—Chicago, Ill.
C. L. Wright, President
Margaret Noonan, Vice-President
James F. Hosic, Secretary-Treasurer

1923—Cleveland, Ohio
Margaret Noonan, President
W. F. Tidyman, Vice-President
James F. Hosic, Secretary-Treasurer

1924—Chicago, Ill.
William H. Kilpatrick, President
Bessie Bacon Goodrich, Vice-President
James F. Hosic, Secretary-Treasurer

1925—Cincinnati, Ohio
William H. Kilpatrick, President
Mary E. Pennell, Vice-President
James F. Hosic, Secretary-Treasurer

1926—Washington, D. C.
Mabel E. Simpson, President
Orville Brim, Vice-President
James F. Hosic, Secretary-Treasurer

1927—Dallas, Texas
Mabel E. Simpson, President
Orville Brim, Vice-President
James F. Hosic, Secretary-Treasurer

National Conference of Supervisors and Directors of Instruction

1928—Boston, Mass.
William H. Burton, President
Mary A. S. Mugan, Vice-President
James F. Hosic, Secretary-Treasurer

Department of Supervisors and Directors of Instruction

1929—Cleveland, Ohio
Mary A. S. Mugan, President
A. S. Barr, Vice-President
James F. Hosic, Secretary-Treasurer

1930—Atlantic City, N. J.
Franklin M. Underwood, President
Elizabeth Hall, First Vice-President
Jessie McLean, Second Vice-President
James F. Hosic, Secretary-Treasurer

1931—Detroit, Mich.
Elizabeth Hall, President
J. Cayce Morrison, First Vice-President
Julia Hahn, Second Vice-President
James F. Hosic, Secretary-Treasurer

1932—Washington, D. C.
J. Cayce Morrison, President
Mildred English, First Vice-President
Arthur Dondineau, Second Vice-President
James F. Hosic, Secretary-Treasurer

1933—Minneapolis, Minn.
Ernest Horn, President
Arthur Dondineau, First Vice-President
Julia L. Hahn, Second Vice-President
James F. Hosic, Secretary-Treasurer

1934—Cleveland, Ohio
Mildred English, President
Leonard Power, First Vice-President
Helen M. Reynolds, Second Vice-President
James F. Hosic, Secretary-Treasurer

1935—Atlantic City, N. J.
Paul T. Rankin, President
Leonard Power, First Vice-President
Helen J. Piper, Second Vice-President
James F. Hosic, Secretary-Treasurer

THE DEPARTMENT OF SUPERVISORS AND DIRECTORS OF INSTRUCTION

Officers for 1935-1936

President ..... Rudolph D. Lindquist
First Vice-President ..... Mary Browning
Second Vice-President ..... Robert H. Lane
Secretary-Treasurer ..... James F. Hosic

Executive Committee

The Officers of the Department, *ex officio*

Mildred English Ernest Horn Paul T. Rankin

Board of Directors

Mary Browning, Supervisor of Early Elementary Education, Louisville, Ky.

Hollis L. Caswell, Division of Surveys and Field Studies, George Peabody College for Teachers, Nashville, Tenn.

Dessalee R. Dudley, Assistant Superintendent of Schools, Battle Creek, Mich.

Mildred English, Assistant Superintendent of Schools, Raleigh, N. C.

Armand Gerson, Associate Superintendent of Schools, Philadelphia, Pa.

Julia L. Hahn, Supervising Principal, Third Division, Washington, D. C.

Elizabeth Hall, South Rygate, Vt.

Ernest Horn, Professor of Education, State University of Iowa, Iowa City.

James F. Hosic, Professor of Education, Teachers College, Columbia University, New York, N. Y.

Delia Kibbe, State Supervisor of Elementary Schools, Madison, Wis.

Robert H. Lane, Assistant Superintendent of Schools, Los Angeles, Cal.

Rudolph D. Lindquist, Director, The University School, Columbus, Ohio.

J. Cayce Morrison, Assistant Commissioner for Elementary Education, State Education Department, Albany, N. Y.

Elma A. Neal, First Assistant Superintendent of Schools, San Antonio, Texas.

Helen J. Piper, Supervisor of Grades 4, 5, and 6, Lynn, Mass.

Leonard Power, Assistant Superintendent of Schools, Tulsa, Okla.

Paul T. Rankin, Supervising Director of Instruction, Detroit, Mich.

Franklin M. Underwood, Assistant Superintendent of Schools, St. Louis, Mo.

LIST OF MEMBERS

THE DEPARTMENT OF SUPERVISORS AND DIRECTORS OF INSTRUCTION

FOR THE YEAR 1934-1935[1]

ALABAMA

Belser, Birdie, Supervising Critic, Primary Grades, State Teachers College, Livingston.
Belser, Danylu, Professor of Elementary Education, University of Alabama, University.
Heard, Mrs. Minnie T., Principal, Young Junior High School, Dothan.
James, Virginia White, Principal, Tennessee Valley Authority Schools, Wilson Dam.
Keech, Vera M., Supervisor, Monroe County Elementary Schools, Monroeville.
Lea, Margaret E., Supervisor, Jefferson County Schools, Birmingham.
Locke, Mrs. Miriam A., Supervisor, Walker County Elementary Schools, Jasper.
McWhorter, Fleta, Supervisor of Health Education, Department of Health, Birmingham.
Norton, Fannie Mae, Supervisor, Tuscaloosa County Elementary Schools, Tuscaloosa.
O'Rourke, Pauline, Supervisor, Mobile County, Mobile.
Penton, Mrs. J. A., Supervisor, Coosa County Elementary Schools, Goodwater.
Rumsey, Margaret, Supervisor, Crenshaw County Elementary Schools, Luverne.
Schurter, Elsie, Supervisor, Escambia County Elementary Schools, Brewton.
Smith, Norma, State Supervisor of Elementary Education, State Department of Education, Montgomery.
Strickland, Verdie, Supervisor, Clay County Schools, Ashland.

ARIZONA

Boyer, Beatrice V., Critic Teacher, Arizona State Teachers College, Flagstaff.
McPherson, Orpha, Demonstration Teacher, Elementary Education, United States Indian Service, Phoenix.

ARKANSAS

Allen, Charles F., Supervisor Secondary Education, School Board Rooms, Little Rock.
Baker, W. W., Superintendent of Schools, Marion.
McQuiston, Edna, Principal, McGehee Grade School, McGehee.
Root, F. S., Superintendent of Schools, Fayetteville.
Smith, R. L., Superintendent of Schools, Eureka Springs.
Turner, Winnie Virgil, Elementary School Supervisor, Blytheville.

CALIFORNIA

Abbey, Evelyn L., Elementary Supervisor, 154 F. South Palm Dr., Beverly Hills.
Adams, Grace Lucile, Rural Supervisor, 240 South Broadway, Los Angeles.
Anderson, Adda, Principal, School Administration Bldg., 7th & Locust Sts., Long Beach.
Anderson, Emma C., Principal, Amestoy Avenue School, Los Angeles.
Andres, Mrs. Edna E., 318 West J St., Ontario.
Armstrong, Edna, Director of Art, 102 Court House Annex, Ventura.
Ball, I. Grace, 970 East Mendocino St., Pasadena.
Barnard, Mrs. S. N., 130 College Way, Auburn.
Bates, Elizabeth, Assistant Superintendent, 365 South Highland Ave., Los Angeles.
Boek, Frank J., Supervisor of Physical Education, 2320 Webster St., Oakland.
Bradley, Harold H., Acting Principal, Westridge School for Girls, Pasadena.
Burket, Frances M., Librarian, Sutter County Free Library, Yuba City.
Burton, William H., Professor of Education, University of Southern California, Los Angeles.
Cameron, Mrs. Tene C., Director of Rural Education, Santa Barbara.
Carter, Grace, Principal, Training School, San Francisco State Teachers College, San Francisco.
Coffey, Julia C., Principal, Hancock-Cooper Schools, San Francisco.
Culbertson, Mrs. Mildred K., Rural School Supervisor, P. O. Box 126, Delhi.
Denhardt, Lucile, General Supervisor, Court House, Red Bluff.
Dragomanovich, Francis L., General Supervisor, Modoc County, Alturas.
Dunbar, Marion H., Teacher, Commodore Sloat School, San Francisco.
Dunbar, Virginia M., 610 Parnassus Ave., San Francisco.
Edmands, Mrs. Ruth, Rural Supervisor, Colusa.

[1] Corrected to January 1, 1935. In this list an attempt has been made to indicate the educational position of each member.

CALIFORNIA—(*Continued*)

Eskey, Nettie D., Principal, Alpine Street School, Los Angeles.
Ferrell, Mrs. Grace, Supervisor, Imperial County Schools, Colexico.
Fuller-Largent, Lydia, Supervisor of Art, Elementary Schools, Board of Education, San Francisco.
Gillispie, H. Wayne, Supervising Principal, Longfellow School, Riverside.
Gist, Arthur S., President, Humboldt State Teachers College, Arcata.
Hamilton, Nellie, Supervisor in City Schools and Department of Education, State College, Fresno.
Hayes, C. K., Principal, Thousand Oaks and Berkeley Sunshine Schools, Berkeley.
Hayes, Maud E., Lafayette School, 25th and Chestnut Aves., Long Beach.
Heffernan, Helen, Division of Elementary Education, State Department of Education, Sacramento.
Heisser, Della B., District Superintendent of Elementary Schools, P. O. Box 27, Turlock.
Henley, Grace, Principal, Polytechnic Elementary School, Pasadena.
Hepner, Walter R., Superintendent of Schools, San Diego.
Hockett, John A., Department of Education, University of California, Berkeley.
Howard, Gertrude G., Principal, George W. Crozier Intermediate School, Inglewood.
Howell, Minnie E., Supervisor of Elementary Education, 715 Locust Ave., Long Beach.
Janes, Hattie E., Principal, John Burroughs School, Fresno.
Kerr, Willis H., Librarian, Claremont College Library, Claremont.
Koontz, Mrs. Florance P., 415 North C St., Madera.
Lamoreaux, Mrs. Lillian A., Elementary Supervisor, 901 North Angeleno, Burbank.
Langmour, Nancy C., Librarian, Yolo County Free Library, Woodland.
Lea, Jessie A., Librarian, County Library, Martinez.
Library, University of California at Los Angeles, West Los Angeles.
Madsen, Julia, Rural Supervisor, 1120 Pine St., Martinez.
Maland, Mrs. E. W., Principal, Patrick Henry School, San Francisco.
Meeks, Ida V., Principal, Jefferson School, San Diego.
Morrison, Isabelle W., Principal, Lelzah School, Los Angeles.
Munce, Tillie C., Primary Supervisor, Fresno County Schools, Fresno.
Overturf, J. R., Administration Building, 21st and L Sts., Sacramento.
Parkin, Mrs. Louise Gruwell, Supervisor of Language Education, 2504 West 80th St., Inglewood.
Paul, Beulah, 319 Court House, San Bernardino.
Reinke, Gertrude H., Dahlia Heights School, Eagle Rock.
Rivers, Paul L., District Superintendent of Schools, Madera.
Roberts, Bertha E., Deputy Superintendent of Schools, San Francisco.
Rothlin, Emily, General Supervisor, Lassen County, Susanville.
Schreiner, Edla L., Assistant Director of Rural Education, 137 North Kalorama St., Ventura.
Sexson, John A., Superintendent of Schools, Pasadena.
Shearer, Elga M., Supervisor of Elementary Education, 715 Locust Ave., Long Beach.
Simpson, Roy E., District Superintendent of Schools, Gilroy High School, Gilroy.
Smith, Mollie A., Principal, 795 Sutter St., San Francisco.
State Teachers College, Chico.
Stone, John Paul, Librarian, State Teachers College, San Diego.
Sughrue, Lava, Elementary Supervisor, 432 20th St., San Bernardino.
Taggart, Lelia Ann, General Supervisor, Santa Barbara County, Box 232, Solvang.
Teachers Library, Board of Education, 715 Locust Ave., Long Beach.
Teachers Library, Los Angeles County Public Library, Los Angeles.
Thomas, Helen S., Rural Supervisor, Country Club Inn, El Centro.
Van Patten, Elizabeth, Principal, Bancroft Junior High School, 929 North Las Palmas Ave., Hollywood.
Van Patten, Nathan, Stanford University Library, Stanford University.
Waddell, Charles W., Professor of Education and Director of Training Department, University of California, Los Angeles.
Waite, Margaret A., Supervisor of Art, 845 Olive Ave., Long Beach.
Warren, Curtis E., Superintendent of Schools, Burbank.
Webster, Mrs. Barbara Miller, Supervising Principal, Barbara Webster School, Santa Paula.
Weeks, Florence E., Supervisor of Physical Education, Oakland Public Schools, Oakland.
Wells, Mrs. Alice M. Brewer, General Supervisor, Marion County, Box 215, San Anselmo.
Westerberg, Iwar S., Director of Education, University of Redlands, Redlands.
Wiles, Mrs. May B., Primary Supervisor, P. O. Box 213, Galt.
Woods, Elizabeth L., Supervisor, Educational Research and Guidance Section, 867 Chamber of Commerce Building, Los Angeles.
Wulfing, Gretchen, Elementary Supervisor, High School, Chico.

COLORADO

Allphin, Helen, Supervisor, 414 Fourteenth St., Denver.
Gumlick, Helen R., Supervisor, 414 Fourteenth St., Denver.
Hamilton, Jessie M., Principal, C. S. Morey Junior High School, Denver.
Holmes, Ethel E., 2610 South Sherman St., Denver.
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Leirich, J. A., Principal, Roosevelt Junior High School, Canon City.
Lind, Nellie V., Principal, Stedman School, Denver.
Rishel J. B., Principal, Barnum School, Denver.
Roe, Mrs. Myrtle, Principal, Franklin School, Sterling.

COLORADO—(*Continued*)

Rusk, James H., Superintendent of Schools, Palisade.
Simpson, Genevieve, Principal, Dora M. Moore School, Denver.
White, Julia M., Principal, Steele School, Denver.
Willey, Gilbert S., Principal, University Park School, Denver.
Yardley, Hattie F., Supervisor, 211 High School Bldg., Greeley.

CONNECTICUT

Andrews, Edwin C., Superintendent of Schools, Greenwich.
Battle, Florence, 140 Church St., Willimantic.
Butterfield, Ernest W., State Commissioner of Education, Hartford.
Campbell, Mary A., Walnut Hill School, New Britain.
Collins, May H., Elementary Supervisor, Municipal Building, New London.
Condon, Anna A., Principal John J. Ryle School, Stamford.
Crofoot, Bess L., Assistant Supervisor, State Board of Education, Box 257, Canaan.
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Gustin, Margaret, State Board of Education, Unionville.
Hinchliffe, John H., Superintendent of Schools, Orange.
Holmes, S. H., Superintendent of Schools, New Britain.
Ide, Mrs. Harriet M., Elementary Supervisor, 804 East Broadway, Stratford.
Keefe, Margaret L., Superintendent of Schools, Hamden.
Leister, Leroy L., Superintendent of Montville-Waterford Schools, P. O. Box 1027, New London.
Libby, H. S., Superintendent of Schools, Southington.
Linn, Maynard W., Principal, Riverside School, Greenwich.
Madden, Grace E., Principal, New Street School, Danbury.
O'Loughlin, Thomas F., Principal, Chauncey Harris School, Hartford.
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Sister Francis Marie, School Supervisor, 72 Church St., Putnam.
Stanley, Calvin, Field Supervisor of Rural Education, Clark Lane, Waterford.
Sullivan, Mary A., Kindergarten-Primary Supervisor, 193 West Ave., Bridgeport.
Thayer, Charles S., Librarian, Case Memorial Library, Hartford.
Yale University, Department of Education, New Haven.
Yale University Library, New Haven.

DELAWARE

Heck, Mrs. Phyllis Mason, Rural Supervisor, Western New Castle County, 220-1 Delaware Trust Bldg., Wilmington.
Holley, Ella J., State Supervisor, Eastern New Castle County, M-221 Delaware Trust Bldg., Wilmington.
McMenamin, David, Principal, Alfred I. DuPont School, Talleyville.

DISTRICT OF COLUMBIA

Bruce, J. C., Supervising Principal, Second and C Sts., S. E., Washington.
Coon, Beulah I., Agent for Studies and Research in Home Economics Education, United States Office of Education, Washington.
Craighill, S. R., Principal, Blair School, I St., N. E., Washington.
Dean, Mildred, Supervisor of Latin, 2134 Wisconsin Ave., Washington.
Draper, Henry W., Supervising Principal, First Division, Curtis School, Washington.
Duganne, Mrs. L. R., Principal, William B. Powell School, Washington.
Dulin, Cecilia P., Administrative Principal, Buchanan Elementary School, Washington.
Goodykoontz, Bess, Assistant Commissioner, U. S. Office of Education, Washington.
Gray, Mrs. S. E., Principal, Giddings-Lincoln Schools, Washington.
Hahn, Julia L., Supervising Principal, Division 3, Raymond School, Washington.
Haworth, Ellis, Head, Department of Science, Junior and Senior High Schools, Eastern High School, Washington.
Hickman, Clara, Principal, Rose Lees Hardy School, Washington.
Hummer, Elizabeth A., Supervising Principal, Division 7, 6304 Hillcrest Pl., Washington.
Latimore, Mrs. M. T., Administrative Principal, Anthony Bowen School, Washington.
Lind, Ida M., Director of Elementary Instruction, Franklin Administration Building, Washington.
Lockwood, Margaret M., Teaching Principal, Horace Mann School, Washington.
Ossire, Cora A., Principal, Curtis-Hyde School, Washington.
Payne, John C., Administrative Principal, John F. Cook School, Washington.
Perry, Leon L., Supervising Principal, Division 11, Cleveland School, Washington.
Powers, J. Orin, Associate Professor of Education, George Washington University, Washington.
Randolph, Leonora C., Administrative Principal, M. M. Washington Vocational School, Washington.
Renfro, Daniel I., Administrative Principal, Elijah P. Lovejoy School, Washington.
Ruediger, W. C., Dean, School of Education, George Washington University, Washington.
Savoy, A. Kiger, Assistant Superintendent, Franklin Administration Bldg., Washington.
Simmons, E. P., Principal, Garfield School, Washington.
Simons, Sarah E., Head, Department of English, Junior and Senior High Schools, Washington.
Sister M. David, Supervisor, St. Joseph's Home and School, Brookland.
Steinle, Marie K., Administrative Principal, Brightwood School, Washington.
Stillman, Dorothea, Headmistress, Potomac School, Washington.
Strong, Mary Louise, Head, Department of English and History, Divisions 10-13, Washington.
Thomas, Sue E., Teaching Principal, Force School, Washington.
Tolliver, R. E., Teaching Principal, Military Road School, Washington.

FLORIDA

Culver, Mrs. Lola M., Principal, Panama Park School, Jacksonville.
Farnham, Myrtle, Primary Supervisor, 605 Ocean St., Jacksonville.
Mead, A. R., Professor of Secondary Education and Director of Laboratory Schools, University of Florida, Gainesville.
Nelson, La Verne, Principal, Gorrie Elementary School, Tampa.

GEORGIA

Barden, Agnes A., Supervisor of Primary Grades, 3202 Forsyth Rd., Macon.
Ferrill, Mrs. Margaret S., Supervisor of Elementary Grades, 702 Forsyth St., Macon.
Massengale, Alice, Teachers' Reference Library, Board of Education, Atlanta.
Mathews, C. B., Superintendent of Schools, Newman.
McCune, W. W., Assistant Superintendent of Schools, Savannah.
Pape, Nina A., Principal, Pape School, 906 Drayton St., Savannah.
Smith, Emma O., Principal, Fort Hawkins School, Macon.
Wurm, Lillie, Principal, Moreland School, Atlanta.

IDAHO

Brenn, Laura M., Supervisor of Elementary Education, Administration Bldg., 311 North 10th St., Boise.

ILLINOIS

Bellis, Bertha, Training Teacher, McMurry Training School, Northern Illinois State Teachers College, DeKalb.
Benham, Morton M., Principal, Jefferson School, East St. Louis.
Compton, F. E. & Co., Editorial Dept., 1000 North Dearborn St., Chicago.
Condrey, Ralph S., Superintendent of Schools, Mt. Carmel.
Dagen, Mary V., Dennis School, Decatur.
Davies, J. C., Superintendent of Elementary Schools, La Grange.
Dolton, Isabella, Assistant Superintendent of Schools, Chicago.
Evans, Anne L., Academic Supervisor, 2324 South 49th Ave., Cicero.
Fairchild, R. W., President, Illinois State Normal University, Normal.
Fitzgerald, James A., Department of Education, Loyola University, Chicago.
Gillham, Olive, Supervisor of Grades, Garfield School, Alton.
Gray, William S., Professor of Education, University of Chicago, Chicago.
Hatfield, W. Wilbur, Head, Department of English, Chicago Normal College, and Editor of *English Journal*, 211 West 68th St., Chicago.
Holmes, Agnes Jane, Principal, Monroe School, Lincoln.
Horton, Lena M., Supervisor of Curriculum and Instruction, Rock Island.
Hughes, J. M., Professor of Education, Northwestern University, Evanston.
Illinois State Library, General Library Division, Springfield.
Jordan, Marion, Academic Supervisor, 2324 South 49th Ave., Cicero.
Keener, E. E., Editor, 600 South Madison Ave., La Grange.
Keith, Edna, Supervisor of Elementary Education, 1211 Cass St., Joliet.
Kimes, Myrtle E., Principal, Plumb School, Streator.
Long, Ida, Supervising Principal, New Field School, Elmhurst.
Loomis, Arthur K., Principal, University High School, University of Chicago, Chicago.
Lowry, W. R., Superintendent of Schools, Chester.
Maynard, M. M., Professor of Education, Monmouth College, Monmouth.
Melby, Ernest O., Professor of Education, Northwestern University, Evanston.
Messenger, Mrs. Helen R., Department of Education, Northern Illinois State Teachers College, DeKalb.
Morse, Lucia Burton, Principal, The Avery Coonley School, Downers Grove.
Nothstein, Reverend Ira O., Librarian, Augustana College and Theological Seminary, Rock Island.
Peterson, Bena M., Teacher Training, Northern Illinois State Teachers College, DeKalb.
Riley, Mary A., Teacher of English, Sullivan High School, Chicago.
Roach, Mary M., Principal, Roach School, Decatur.
Roberts, M. F., Principal, Community High School, Wheaton.
Sawyer, Bessie, Supervisor of Penmanship, 572 Veronica St., East St. Louis.
Schneller, Millard R., Teacher, Tilden Technical High School, Chicago.
Sister M. Adelgunde, Supervisor (Sisters of St. Joseph of Stevens Point, Wis.), 8737 Exchange Ave., Chicago.
Sister M. Januarius, Supervisor, 4900 Cottage Grove Ave., Chicago.
Sister M. Sanctoslaus, Supervisor, 3800 Peterson Ave., Chicago.
Smith, George O., Superintendent of Schools, Princeton.
Tiley, Pearl M., Kindergarten-Primary Supervisor, 3105 W. Main St., Belleville.
Trimmer, Carmen A., Supervisor of Art, 572 Veronica Ave., East St. Louis.
Walker, Hattie Adell, Teacher, Francis Parker School, Chicago.
Weaver, Robert B., Instructor in Laboratory Schools, University of Chicago, Chicago.
Wheeler, H. E., Vice President, Wheeler Publishing Co., 2831 South Park Way, Chicago.
Windsor, Phineas L., % Periodical Dept., University of Illinois Library, Urbana.

INDIANA

Armstrong, Hazel E., Indiana State Teachers College Library, Terre Haute.
Bettcher, Elizabeth E., Director of Elementary Student Teaching, Butler University, Indianapolis.
Crodian, J. P., Superintendent of Schools, Peru Senior High School, Peru.
Foster, Nancy L., Principal, Edison School, Hammond.
Fuqua, Blanche, Supervisor, Board of Education Bldg., Terre Haute.
Hamilton, Otto T., Assistant Professor of Education, Indiana University, Bloomington.

INDIANA—(*Continued*)

Heavenridge, Mrs. Ruth K., General Supervisor, 150 North Meridian St., Indianapolis.
Ingleright, Allegra J., Director of Elementary Education, School Administration Bldg., South Bend.
Lindahl, Hannah, Supervisor of Elementary Education, Mishawaka.
McGuire, Edna, McKinley Administration Bldg., East Chicago.
Milliner, Golda, Supervisor of Elementary Education, 407 E. Main St., Crawfordsville.
Rath, Emil, President, Normal College of A. G. U., Indianapolis.
Shannon, J. R., Professor of Education, Indiana State Teachers College, Terre Haute.
Smith, H. L., Dean, Bureau of Coöperative Research, Indiana University, Bloomington.
Southwick, Margaret, Director of English, Board of Education, Gary.
Wagoner, W. E., Secretary-Registrar, Ball State Teachers College, Muncie.
Zehner, Mrs. Effie T., Director of Instruction, 1517 Bayou St., Vincennes.

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